FINAL REPORT: 2016 WLIP SURVEY

CONTENTS

WISCONSIN DEPARTMENT OF
ADMINISTRATION

OVERVIEW

- The 2016 WLIP Survey had the specific purpose of gathering comments on draft versions of 2018 Strategic Initiative benchmarks and possible future benchmarks.
- Everyone in the land information community was invited to participate, with participation from LIOs required.
- There was a total of 118 responses.
- Responses have been anonymized by omitting respondent's name, email address, and organization.
- Responses are broken out by organization type.
- Responses have been numbered as a reading aid, but the numbers do not have any correlation to the responses themselves.
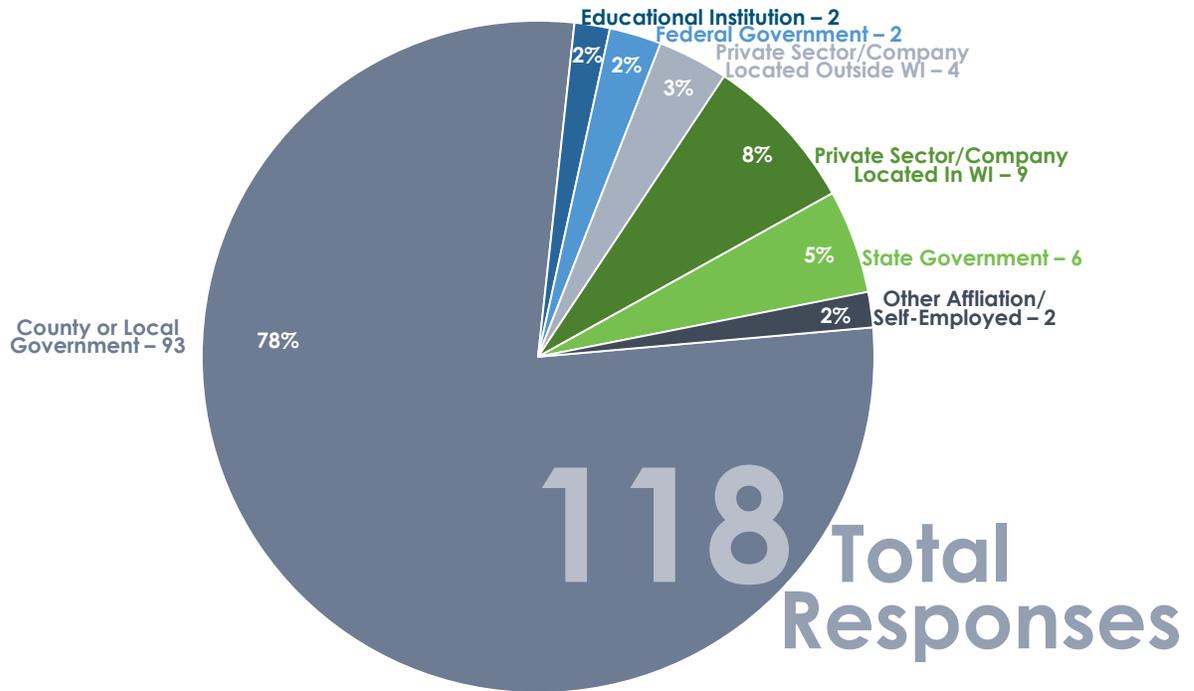- Responses have not been edited.

2016 WLIP Survey Data Summary	
	Summary Statistics
Q6 - BENCHMARK 2.1 – OPEN DATA	**55**% okay with draft
Q7 - DOWNLOADABLE	**63**% okay with draft
Q8 - WITHOUT CHARGE	**77**% okay with draft
Q9 - WITHOUT RESTRICTIVE LICENSURE	**75**% okay with draft
Q10 - COMPLETE	**73**% okay with draft
Q11 - DATA	**77**% okay with draft
Q12 - PLSS	**77**% okay with draft
Q13 - PARCEL MAPPING	**73**% okay with draft
Q14 - LIDAR AND OTHER ELEVATION DATA	**62**% okay with draft
Q15 - ORTHOIMAGERY	**72**% okay with draft
Q16 - ADDRESS POINTS AND STREET CENTERLINES	**65**% okay with draft
Q17 - LAND USE	**68**% okay with draft
Q18 - ZONING	**66**% okay with draft
Q19 - ADMINISTRATIVE BOUNDARIES	**76**% okay with draft
Q20 - OTHER FOUNDATIONAL ELEMENT LAYERS	**71**% okay with draft
Q21 - CORE METADATA	**73**% okay with draft
Q22 - VOLUNTEER METADATA DESIGN EFFORT	19 individuals
Q23 - STANDARDIZED ORDERED TABLE/LIST (OTL)	**70**% okay with draft
Q24 - VOLUNTEER OTL DESIGN EFFORT	12 individuals
Q25 - LAND INFO RECORDS SEARCH TOOLS	**61**% okay with draft
Q26 - SUBMITTED TO DOA AS A RECORD	**77**% okay with draft
Q27 - BENCHMARK 3.2 – AERIAL IMAGERY BASE PRODUCT	**60**% okay with draft
Q28 - BENCHMARK 3.3 – LIDAR BASE PRODUCT	**54**% okay with draft
Q29 - BENCHMARK 3.4 – OTHER LAYERS	62% had no comment
Q30 - CURRENT PARCEL BENCHMARKS	63% had no comment
Q31 - ADDITIONAL PARCEL BENCHMARKS	43% had no comment
Q32 - OTHER COMMENTS	56% had no comment

THE SURVEY QUESTIONS

For the original survey questions, see the **printable preview** with bookmarks for each question number on the WLIP webpage.

Q1 - ORGANIZATION TYPE

- Educational Institution – 2 — 2%
- Federal Government – 2 — 2%
- Private Sector/Company Located Outside WI – 4 — 3%
- Private Sector/Company Located In WI – 9 — 8%
- State Government – 6 — 5%
- Other Affliation/ Self-Employed – 2 — 2%
- County or Local Government – 93 — 78%

118 Total Responses

Q5 - COUNTY GIS USER

- No – 5 — 4%
- Yes - All 72 counties – 13 — 11%
- Yes - One county – 34 — 29%
- Yes - More than one, but not all counties – 66 — 56%
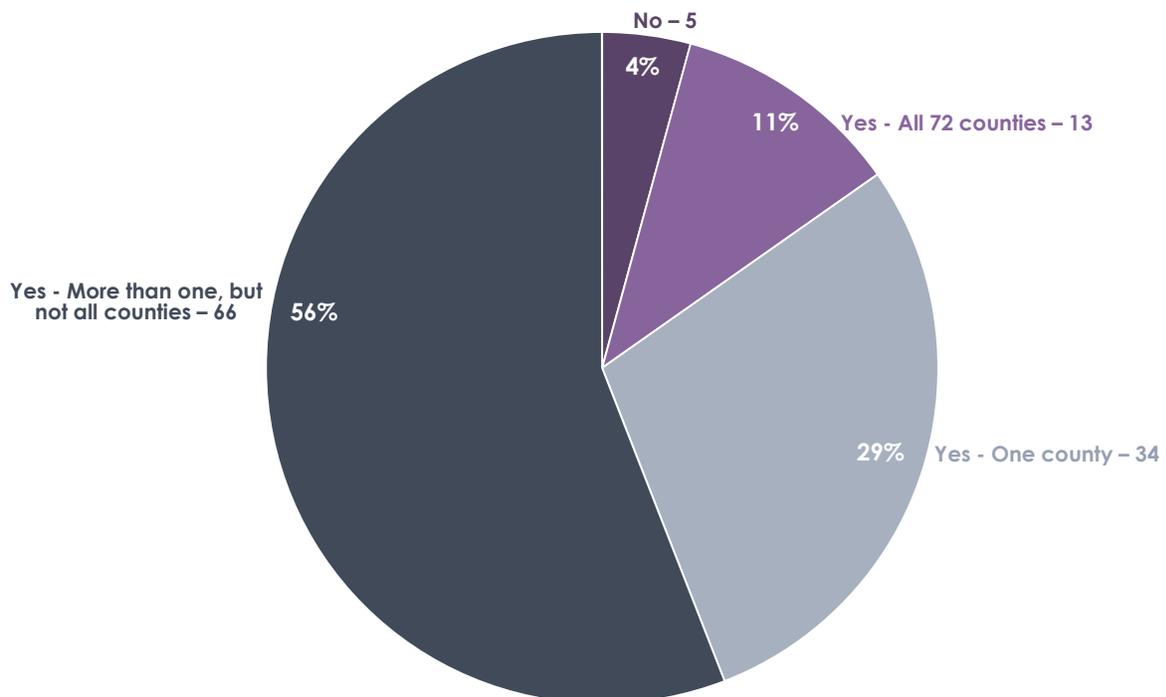
Q6 - BENCHMARK 2.1 – OPEN DATA

	%	Count
I see nothing problematic about this requirement as it is written	**55**%	66
Comments/suggestions/changes you feel are needed to make the Open Data requirement satisfactory	61%	73

State Government

6.1   Data available changes from county to county. For the new data set, it would be beneficial that all counties publish all of the data that is in their database. Examples: Some include special districts (TID, school districts, sanitary districts,...) Some include information on legal documents filed with the County Clerk Some include owner names, others - that name is subscription access only As an assessor, this information helps me make sure that I have the most accurate data as part of my assessment. My office does not have the funds to subscribe to the various county GIS websites for additional infor, so for us the more information that is freely available makes my job easier.

6.2   The only issue I think may occur is with criminal justice issues.

6.3   I don't have any issue with the premise of making data available. I do think that having 72 counties do there own thing will be problematic for counties and consumers of the data. There should be a central piece of technology that would integrate, transform and make data easily accessible, at the same time this technology could help some of the less technically equipped counties standardize the way they are sharing their data. As a consumer of the data I would think this could be a cumbersome way of obtaining statewide GIS data sets. The data would have to be harvested from 72 links and then processed to be in consistent format for use. This would have to be repeated for each consumer of the data.

County or Local Government

6.4   I don't feel one "agency " should have that kind of power over counties. Must remember where the dollars are coming from. While I agree that in order to be consistent some standards need to be set, but to have one agency dictate is not right. If a standard is set, doing legislation allows all the participants to voice their opinions and have input on the process.

6.5   My only concern is that we will be expected to include data that is/was not "developed with WLIP retained fees or grants" such as ownership or assessment information.

6.6   I don't know about other small Counties, but I am the whole GIS system for Iron. The more work I do for the State, the less work I can do for the County, the farther behind the data falls. This will not change and the County Board will not hire additional staff because there are already too many people "playing on computers all day" working for the County. I am currently filling out this mandatory survey when I should be working on a web map.

6.7   I feel this wouldn't be a problem as long as the grants and retained fees can be used for maintenance of these new programs that the counties have to implement. Crawford County's retained fees don't even come close to paying for the annual maintenance on these new programs. I feel as long as the County is supporting these programs for the most part the State should not let the public download all data without a charge.

6.8   This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.

6.9   - No minimum update schedule requirement for data or the OTL. I would expect different update schedules depending on the data. - There are still no statewide layers. Would still require users requiring data from more than one county to go to multiple counties and then reconcile schemas. - The data is spatial, but there is no mention of a spatial discovery tool. Not all data is countywide and users should be able to visualize what areas within counties are included in the available datasets. - If a 3rd party like RML is not available for all data layers, it would require every county to build servers (hosted or on-prem), this might not be the most cost effective from a statewide perspective. - Perhaps this would create a one-stop for the index or OTL, but far from a one stop for the actual acquisition of data.

6.10   Why not direct public to the statewide parcel dataset website? Duplicating services....

6.11   Dodge County already provides all land information data openly and freely, with no restrictions or licensure required. We are working to provide downloadable data from our website and until such time as that mechanism is enables, all anyone need do is make the request and send a flash drive or external hard drive on which to copy our data or ask that it be FTPed or we put it into the cloud for download.

6.12   To reiterate.... Any data which is solely created and maintained using County tax dollars is exempt from the Open Data benchmark requirement. For instance if the parcel data is created and maintained by County employees whose salaries do not come from WLIP funding then this dataset is exempt? Perhaps a list of required "Open Datasets" would suffice along with the requirements for formatting specifications, metadata, etc. Also, assuming this section concerns the tabular tax data, is this tabular data in the same format for DOA and DOR specs? Are the Counties going to be held to submitting 2 datasets which are similar, albeit slightly different? Could the DOA and DOR coordinate to receive one data submission from the counties which includes all of the info each agency needs, and then extract the info necessary for the individual business needs? This is the case if the County downloads data from the DNR, for example, and extracts the necessary geometries and attributes for the County's needs.

6.13	Our GIS data is available as a zip file for download at no cost. The data is available according to our county standards and the data was created according to our counties needs and standards. It is simple enough to understand. It is more difficult for our aerial and lidar data to be online due to size. It should be considered that each county has different websites that can host a variety of different data. Some IT departments may have different restrictions as well. Making a standardized table/list of downloadable data is something that could take more time for counties which takes time away from getting work done. Smaller/rural counties dont have large staff to handle the extra requirements and keep up with their daily workloads.
6.14	I see nothing problematic about this requirement as it is written but problems may arise as the County attempts to comply.
6.15	Our IT Department won't allow outside download from our internal network; and we'd need money to pay a third party to host our data, and would need some type of liablilty disclaimer.
6.16	The ability for counties to meet this requirement differs significantly. This will create a system that data structures and online access will differ across the state. It will also redirect resources away from the development and maintenance for the data available. This speaks to the need for a single state data repository instead of 72 different sources. This is a function that is better hosted by the State and it appears that it is not looking to provide a Wisconsin Central Data Repository.
6.17	WLIP retained fees are used to support software maintenance efforts within the ROD office here. Copies of those documents are restricted by State Statute. Without Statutory amendments, ROD office could no longer use retained WLIP retained fees or grants for software maintenance.
6.18	I would propose that these requirements are not made mandatory for grant funding until 2019. Many of our County Land Information Plans don't take into account these requirements. If they are made a requirement for the 2018 grants we may have to revise our county plans before we can prepare the 2018 budgets and grant application. We will start working on 2018 budgets in about 5 months. That being said, most counties will start working on them once they are finalized.
6.19	The term Open Data is a very broad term and potentially may be much more involved than expected, with higher expectation of access, ie. City of Madison. What is listed in this section points more to a system for "Data Sharing". The ability for counties to meet this requirement differs significantly. This will create a system that data structures and online access will differ across the state. It will also redirect resources away from the development and maintenance for the data available. This speaks to the need for a single state data repository instead of 72 different sources. This is a function that is better hosted by the State and it appears that it is not looking to provide a Wisconsin Central Data Repository.
6.20	- Providing the County's data for free and through an Open Data Portal is something new for Walworth County, however we are working toward that functionality and hope that this process doesn't become more of a burden on the County's than what it needs to be. - County hosted option would be preferred. - A clear definition of what formats would be available should be considered.
6.21	In our specific case, the city creates the parcel data for the city of Janesville and then sends that information to the county. If this were to happen, the county would be submitting the data to this, even though they had nothing to do with its creation. There would need to be a mechanism to compensate us for that time spent. More generally, the institutional barriers would be highest. We would need for people to understand that creating this data and maintaining it is a large portion of our job and we are making it available for free. The danger is that once this data becomes widespread, it could be used and sent to anyone for any purpose and we could be blamed for inaccuracies or lack of current-ness. It also could be used and sold by commercial entities who could make a profit.
6.22	A6. My only objection is related to the importance of making datasets "downloadable" to meet this standard. Some data sets, like huge LiDAR files, or very complex data like zoning with multiple related overlays and attribute tables are best provided as a service to the user so they do not need to provide duplicated, on premise storage, or rebuild complex data relationships. Users who are sophisticated to a level to actually know how to use these complex data sets are usually able to consume the data as a service. I would recommend that this benchmark be considered met is the data are "available, accessible, and discoverable. This benchmark encourages that all data should be made downloadable when practicable.
6.23	A key component of many questions in the survey is "data created, acquired, maintained, or developed with WLIP retained fees or grants" - understanding that there are actually very few datasets in Polk County that were/are developed using only WLIP funds, County policy would need to be changed to comply with this requirement. Currently, Polk County requires licenses/fees for Orthoimagery and LiDAR data that used levy dollars to obtain.
6.24	Will everyone be required to use the same method of distribution? If not what will be put in place to make sure the end user has a seamless experience? If so, will all of the data need to be supplied in the same projection? In either case, how often does data need to be updated? Are there accuracy requirements? It seems that a third party solution would benefit the end user while reducing the burden on the local level to provide hardware and support to a "statewide" system. A local hosted solution would allow the county to maintain control of their own data. As long there is money in place through the strategic initiative grants or another solution, this should not be a problem. Should funds be revoked or not be available this requirement would become difficult.

6.25	A6. What is an OTL? What is core Metadata? What are the safeguards for counties in supplying data? In regards to accuracy, timeliness, etc. Some data sets are too large to download. We currently use the ESRI Open Data portal, how does the OTL fit into this industry standard?
6.26	This "workflow" for open data as written currently goes against our existing policy for acquisition of digital data from the County, this would have to be brought to Committee.
6.27	Exceptions need to be made for records that have sensitive information...due to Security reasons or personal information Also although I see the need to remove "charge and without restrictive licensure" for the sake of open data some type of use and liability disclaimer or agreement should be required. There is also a technological issue here...some municipalities will not have the bandwidth necessary for this. An easy to use and free state run data depository needs to be available for the municipalities to post their data to in order to alleviate this issue.
6.28	Would the statute for open records law be changed? I assume Q6 refers to tax data and not the geometry as that is addressed later. I am concerned with the disconnect between what DOA and DOR would require. DOA and DOR need to coordinate the request for data so the County does not have to meet different requirements for the same data. May need funding to accomplish.
6.29	This initiative goes beyond the authority granted to WLIP by act 20. While all government subdivisions must comply with the requirements of the open records law, it is up to each of them to determine how they do so. If the state is to make decisions as to what the "reasonable cost" is, or in what format the information must be presented, it must do so, with due process, through its legislature. Not by it's bureaus, and with complete knowledge, and complete understanding of why those policies are what they currently are. The justification for the state wide parcel map was to have a central clearing house for this information, at no cost, for state agencies, and for the public. The requirement that counties require the service leaves the state wide parcel map without purpose, or justification.
6.30	Might be a problem to get data into a standardized format.
6.31	Eau Claire County would need to change our data sharing policy and build an infrastructure to distribute data for download. Eau Claire County does not currently have a web server or host any websites. This model will require users to navigate 72 different websites to obtain the data they are after.
6.32	Not really sure what the state has in mind for an OTL.
6.33	Ozaukee County has a few reservations regarding the wording of this. To name a few: We are concerned with the sustainability of the program funds (continued grant guarantee). Also, we question what datasets will be required to satisfy this requirement., i.e. If we create datasets which are not in the fundamental elements, will we still be required to submit all data developed because staff salary is funded out of the WLIP funds? What about datasets the Land Information Office does not maintain, such as treasurer's information. Is the Land Information Office required to submit this information or the treasurer's office. Ozaukee County does not allocate any funds out of the WLIP funds to the Treasurer's Office and if the Treasurer's office decided not to submit all the required fields, the Land Information Office could lose the funding. Also Problematic, Core metadata has not been defined yet. Opt out clauses for County websites may be irrelevant in this benchmark and may be problematic for some Counties.
6.34	Does OTL expect a specific format? Wil I be required to covert or otherwise process data to conform to 'open' standards?
6.35	I should review the law. I assume there's some distinction between "intermediate" datasets and "final" datasets? Also, is it possible that some WLIP "projects" (base budget / retained fees) are small enough in scope/geography that making them downloadable would be hosting clutter? Are we looking at all graphical maps too or just "datasets?"
6.36	Standardization of tables is problematic at this time.
6.37	The timeline above does not allow for adequate budget planning. We are in the process of planning for a PLSS, Aerial Imagery & LiDAR Project. These types of projects require a multi-year planning and budget process. The above timeline conflicts will our current WLIA approved plan and County approved project planning and budget. We are proposing to retain SI funds in 2017 for a 2018/2019 Aerial Imagery & LiDAR Project. The above proposed benchmarks will require us to default the project, and 2018 grant commitment, due to the Open Data Requirement in early 2019. Omissions: If the data is in 1 dataset how will omissions be handled (example: WIDNR Wetlands will need to be omitted per the WIDNR requirement). Technical barriers to implementation and institutional barriers: Clark County may have Technical or Institutional Barriers depending on how/where the data is hosted and served.
6.38	A6. The "Open Data" would be in conflict with the County's current GIS data policy, which was reviewed and adopted in 2015 by a County Board oversight committee. What I thought to be a fairly simple request to move towards an "Open Data" policy became an arduous process as the Committee relied heavily upon the recommendation from our Corporation Counsel, who provided a much different opinion. Therefore, County's existing policy is to provide only a few data sets for free (Address points, County Zoning, Tax Parcels, Road Centerline, and Wards) and charge for all others based on data sizes of requests. There are no anonymous downloads as all data requests require a signed distribution agreement as recommended by our Corporation Counsel. I can support an "Open Data" policy, but I learned I have limited input in developing a policy. Much of this "Open Data" is a policy and legal issue, rather than coordination of GIS data or technology. If the State wants to move in this direction, I would think it would be helpful to educate County Board members, County Administrators, and County attorneys on the benefits of

implementing such a policy, rather than requiring Counties have "Open Data" policies with regards to future WLIP grant projects. County policy makers generally have different forums than that of LIO's, and WLIP may need to make "Benefits of Open Data" presentations at county policy-maker venues. I believe County leadership would have a high regard for the WLIP if they are confident that they are doing the "right thing" by providing a valuable service to their community with a "Open Data" policy; otherwise, leadership may feel they are only compromising their County policy in order to receive State grant monies.

6.39	A disclaimer to avoid any user from claiming that inaccurate data caused some sort of harm. Also, County boards would have to agree to any additional expenditures that would allow the County LIO to meet these goals. I also believe that large data users should pay some kind of fee (per County) for the data beyond a standard benchmark.
6.40	Would prefer third party hosting option and data upload similar to what LTSB provides. Should be standardized to make it easier on end user.
6.41	I could see problems without an official list of layers that are required - it's too open ended. Also there is some sensitive information, particularly related to sensitive populations and emergency mgt, that should not be available. Also, while grant money is provided, in many counties this money is directed towards staff salaries, so it would not offset costs associated to hosting this data. DOA should provide a portal for all counties to place this data if they are requesting it.
6.42	La Crosse County is in favor of Open Public Data and Data Sharing, but just a side note as stated in the paragraph above: "data created, acquired, maintained, or developed with WLIP retained fees or grants"; it should be noted that some/all data (layers) could've been created prior to WLIP retained fees or grants.
6.43	Our County IT Department policy won't allow data to be downloaded online from Jackson County servers. We would like to see a disclaimer so we are not liable for the accuracy and how the data is used.
6.44	1. Some of the data that is collected and delivered to us has limitations stated in the contract as to whom the data can be shared with and in what formats. That would be in direct conflict with this benchmark as stated. 2. In some cases funding may be a combination of WLIP money and other funds - in this scenario the inability to charge for that data may eliminate the sustainability of that data. 3. Just making this data availablen and discoverable will still lead to a messy smattering of dropboxes, FTP sites, WFS services, etc. The state should make a repository and set standards. Putting information on a cloud server is not cheap and will drain resources for those counties that are trying to devote time and money to achieving benchmarks.
6.45	As long as a common data portal hosted by the state/third party, this would be a welcome improvement for data accessibility. Once up and running, an outreach/education effort should be implemented to better inform data seekers of this open data policy.
6.46	I would like them to put in that statement a clause for the statutory copy fees the Register of Deeds office charges will still remain in effect.
6.47	There are statutory fees to be collected
6.48	The benchmark reads a bit heavy at a single sentence that is 80 words, 12 commas and 3 acronyms. A couple of suggested changes are embedded below. Consistent with the Public Records Law, county land information offices shall make available, accessible, discoverable, and downloadable online in the public domain, without charge and without restrictive licensure, complete electronic data created, acquired, maintained, or developed with WLIP retained fees or grants. This electronic data shall be made available with core metadata, through a single, standardized ordered table/list of downloadable data using land information records search tools, with the table/list posted online and the URL submitted to DOA as a record for the WLIP Portal.
6.49	Remove: "standardized ordered table/list of downloadable data and land information records" Replace with: organized, simple and easy to use website. Remove: "table/list" Replace with: contents A table/list is an archaic, non-user friendly means of discovering data. The above replacements allow for flexibility in using a site such as ArcGIS Online OpenData an acceptable means.
6.50	There are some potential problems with this language. Many counties retain data supplied from other entities, such as municipalities, which are covered by open records law. The municipal datasets retained may not be the most accurate or current available. The language used is very inclusive. I could include many things which are covered by open records law but are not currently practical to distribute in an open records format. Examples include project based datasets which were generated as part of analysis. These dataset in most cases could be subject to open records law. However they are not always suitable for general public consumption. It may also include data which is only partly covered by open records law. Examples of this would be GIS crime data. Some data points may contain information about minor children which cannot legally be distributed. Protected data would need to be redacted prior to an open records released. I don't believe it was your intention to require all data to be in public downloadable online portal just primary core datasets. Please consider revising your language to more clearly define the data you are intending to cover.
6.51	We currently distribute our GIS data using Esri Open Data sites. However, I think it can be a little overwhelming for folks to choose the best method to distribute data. Not everyone will be comfortable configuring these sites. It would be helpful for folks if a short list of software options were provided to help meet the requirement.

6.52	A6. In the past, we have a line item of revenue received for our land records data sales. This budget is then vetted and approved by the County Board. The land information community understands the concept of open records but the governing bodies of the local governments may not. It may help if the State reached out beyond the scope of the land records group and into WCA or other associated groups.
6.53	It doesn't specify how up to date the table has to stay, how many times a year it would have to be put out, etc. the problem with this is, as with the info that is already out there, it is quite outdated by the time it is put on the site. They are better off contacting the county to get correct current information instead of the users calling the sources saying the data doesn't match the current data program online.
6.54	A6. It will be a new expense for us to host the data someplace for download. I determined some cheaper options where I can try to balance the data but it is a bit of a hassle beyond simply providing what it requested when it is requested. As I write this it dawned on me that providing our LiDAR data would eliminate the cheap options due to size of the datasets. I believe in open records but I believe that there is a difference between open records and what is being proposed here. I believe that this is going a step further. Open records require that you provide data in the form it is kept in upon request. This is requiring us to state what we have and make it all available for download 24-7 which is a bit beyond a basic open records request. I am perhaps just a bit scared about trying to keep up with needs as people always want more data and more current data. How far will things reach will it extend beyond GIS someday? Data acquisition is like a thirst that is hard to quench when people get a taste for it I am fearful of keeping up with their questions about how to use the data and how to load it, convert it etc. Nonetheless I intend to provide the data and will gladly point people to our download location, but I have some questions about the process. Will we need to make available every dataset from every year or just the most current information? All year's orthoimagery and Lidar or just the most recent? How frequently do we need to update the data available for download? These are questions that I have. Some datasets may be incomplete and it may take extensive amounts of time to get all the metadata in order. It will definitely means a reshuffling of time and effort with some being taken away from creating and maintaining the datasets themselves.
6.55	Chippewa County would need a generous amount of time to create the metadata for each layer, as we are "bare bones" in that department. I would desire some direction from the state on standards, if any. What is meant by having search tools available for the open data? Logical naming of the layers should suffice in making them available to the public, not also requiring a search tool to find it. This seems excessive. To make all of these records available may be costly for some counties. A better remedy would be a depot of records on the state servers. There would be a one stop shop for anyone looking for data in Wisconsin.
6.56	Please ensure that the OTL also fits the needs of other state departments such as the DNR and DOR
6.57	1- I would prefer the data be hosted by a third party for all counties. This also provides an independent back-up of the data. 2- Need data disclaimers.
6.58	We occasionally have issues with our county's firewall security preventing individuals from obtaining data. We plan on switching to an ArcGIS service which would allow individuals to download data. Preferably, we would like the state to come up with standardized attributes for each layer so that we can work towards creating more statewide layers (or at the very least regional layers). For example, standardized road layers would enable us to provide emergency providers with seamless maps when their coverage area goes beyond the county boundaries.

Federal Government

6.59	Simply...go one step further....Use OGC standards like WMS and mandate serving of data in non-proprietary formats so they are discoverable and can be used. It would be nice also for WLIP to maintain a laundry list of the OGC map services so one doesn't have to hunt them down for every county.

Private Sector/Company Located Within Wisconsin

6.60	I agree with many of SCO's comments - this could be a lot of work for many WLIP grant recipients, and that effort would be better spent on producing and disseminating high quality priority datasets. A county-based OTL should be a manageable and focused effort, rather than a catalog dump.
6.61	I very much like the idea of open datasets, but would want to ensure that the Counties are not overly burdened standardizing attributes/meta data. The text does not necessarily state how detailed the meta-data would have to be. If simple, then I support this requirement as written.
6.62	This is completely reasonable seeing that the infrastructure required to accomplish this is minimal and most Counties should already have it in place.

Private Sector/Company Located Outside of Wisconsin

6.63	Because of the third bullet point below in Q7, This looks good.
6.64	it never hurts to omit personally identifiable information. IMHO

Educational Institution

6.65	In our opinion, even an initial solution to a statewide geoportal should be more than a table or list of datasets available online. An "open data benchmark" that can be achieved through a multiplicity of access options, websites, and formats will not provide users with the capabilities they need. And once this

solution is put in place there will be tremendous inertia associated with improving it, since data producers will have invested time, energy and resources in its development. It will be hard to move toward a more managed solution; hence it makes sense to have this managed solution in mind as we develop the first iteration. Rather than asking data producers to deliver their entire warehouse of data at once, we should develop priority datasets and invest in these datasets to ensure they have decent metadata, are discoverable, and are adequately managed and curated. This approach will not only ensure that priority datasets will be of high quality and high value to the user community, but will also reduce the amount of extra "busy work" that local data producers will need to do to assemble and release their entire repository of data. Simply stated, we should focus on quality, not quantity. We should prioritize development and access for the most important layers and phase in other, less critical layers over time. We need to distinguish between open data benchmarks that deal primarily with policy issues, and a statewide geoportal that the WLIP has identified as a separate area of investigation for the GIO. Meeting an open data benchmark will not solve all data access problems.

6.66 Ensure standardized metadata Make sure that data is machine readable and in common formats (ie. Shapefiles, File Geodatabases)

Other
6.67 Give an explicit example of OTL and minimal acceptable metadata.

Q7 - OPEN DATA DEFINITION OF "DOWNLOADABLE"

	%	Count
I see nothing problematic about this requirement as it is written	**63**%	74
Comments/suggestions/changes you feel are needed to make the "Downloadable" requirement satisfactory	49%	58

State Government
7.1 Nothing problematic with the definition of Downloadable We support the concept of WLIP funded data sets to be discoverable for download via the methods described. This definition supports the Open Data principles of Accessible and Online and Free. Regarding the WFS option, please be advised that not all web service engines allow the capability to download data via this method General Comments: Data Exchange Repository: the WLIP should establish a single data exchange environment in which all counties (and perhaps the state agencies) would post their shared data. For example, a next-generation FTP-based environment with login credentials and tracking for each government agency, managed by DOA. See also statement #1 under General feedback – QA32

7.2 I would add USB drive, CDs or DVDs to the Raster data exception.

7.3 Again, I have no issues with making the data available but, data should be made available in a consistent format. I would like to see data be made available in WFS format and in a specific defined projection. WFS layers should be hosted by counties equipped to do so and for counties not equipped a hosted solution should be used. An FTP solution may be as costly as an subscription to ArcGIS.com. In my opinion we have enough federated systems. This should be an integrated system that works with all levels of government (in various fashions) on a consistent basis. By not having a centralized system in place, I believe we will open a large can of worms that we will not be able to control or maintain. I also believe it will be harder to do later, once counties decide on a option for access, they may be reluctant to change (even if the option they pick isn't working for consumers). We as a GIS community should bite the bullet and find a solution that will work for everyone. In my opinion we do have some options.

County or Local Government
7.4 Each county has needs that relate to them. They may have different priorities then the county next to them. To force counties to conform to other counties is just wrong. Why make a county pay or install a program/process if they don't have a need for it? Counties should be able to set their own projects/policies.

7.5 Who is going to host all this data? Iron County was in the WROC group of the last couple years and acquired Lidar data along with the aerial imagery. The Lidar data (bare earth, classified point cloud, and contour lines) totals approximately 300GB. Datasets only grow in size when resolution increases. The County be liable to make sure terabytes of data are freely downloadble to anybody on the internet?

7.6 Again will retained fees and grants cover the maintenance and setup fees involved in setting up and maintaining FTP server.

7.7 This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.

7.8 - Does not address acceptable or required formats. For example, if I were posting lidar data should the format be .las, a DEM of a specific resolution, DTM, all of the above. For vector data do I need to provide the data in a common CAD as well as GIS format? Different users are going to have different needs and when working across county boundaries it would be helpful to have similar data in similar formats. - Comments from the previous question relating to update frequency, spatial discovery, lack of a one-stop shop, possibly requiring every county to bear the expense of creating a down-load option, no statewide layers, etc... apply to this question as well.

7.9	much prefer the 3rd party option. Again, it seems a duplication of services. Why multiple portals? Haven't we been talking about a 'one stop' portal for the last few years?
7.10	Already compliant
7.11	At this time Vilas County is providing 6 datasets (in the County's native format) for download (address, districts, parcels, planning & zoning, recreation, PLSS, and transportation). This data is produced 1 time per year for platbook production in the early first quarter. Any requests for data produced on a specific date, or data manipulated to the customer's requirements will be subject to customization fees.
7.12	Our GIS data is available as a zip file for download at no cost. The data is available according to our county standards and the data was created according to our counties needs and standards. It is simple enough to understand. It is more difficult for our aerial and lidar data to be online due to size. It should be considered that each county has different websites that can host a variety of different data. Some IT departments may have different restrictions as well.
7.13	It might be beneficial to identify the State sources that met the download option for WLIP grant funding. Kenosha sends information to both the Department of Revenue and the Robinson Library. Are these sufficient repositories to meet the DOA requirements? We intend to move to an ftp open data source in 2017.
7.14	My concerns are how often will the data need to be updated and maintained? Jackson County would need a third party or WFS option, although it's not permissible by our IT department to consult an outside vendor for any digital data without consent.
7.15	The requirement is set in very vague terms and this can be a burden for some counties to meet depending on the final requirements. There is also a concern that it will divert resources away from the data development and management that is to be downloadable. This speaks to the need for a single state data repository instead of 72 different sources.
7.16	Some datasets require large disk storage space and commensurate download times. Our IT policy does not allow outside access to our internal infrastructure and therefore requires additional hardware/software to satisfy this requirement. Do other open data sources qualify i.e. OWS, WCS, or WMS?
7.17	The data format is big problem area. Some data requesters only work in CAD and can't use MrSID raster data. It would be helpful to address those users if possible by doing a user survey to prioritize data needs and format. We may be putting data out there that only a handful of users want.
7.18	A recommendation would be to not define a word with that word. Suggestion from Webster "To transfer (data or files) from one device (computer or storage to the memory of another device." The requirement is set in very vague terms and this can be a burden for some counties to meet depending on the final requirements. There is also a concern that it will divert resources away from the data development and management that is to be downloadable. This speaks to the need for a single state data repository instead of 72 different sources.
7.19	- What formats will be available. A defined set of formats should be outlined to help minimize the request for some obscure format.
7.20	As mentioned above, we would need to come to an agreement with Rock County how they would receive our data. Other than that, we would need to have buy-in from our IT people to help set up a system that would make this possible, as it likely couldn't be done immediately. There are lots of technical variables that would need to be addressed.
7.21	A7. If providing services becomes the standard requirement with a recommendation to make data downloadable, the raster data exception would not be required. The hard drive option is always available to a user for both Raster and LiDAR data, but it complicates the definition of downloadable.
7.22	Whether through county systems or a third party solution, hosting supplying, maintaining data and hardware still cost money. As long there is money in place through the strategic initiative grants or another solution, this should not be a problem. Should funds be revoked or not be available this requirement would become difficult. What happens if a state entity holds the data and then loses funding? What happens if strategic funds dry up for the locals? There need to be controls in place to provide these services in perpetuity so as not to lose the ability to keep the data readily available.
7.23	A7. Some raster data, i.e. Lidar, is nearly impossible to download at this time. The dataset is too large.
7.24	As long as there is a state wide depository to upload large raster and other datasets to in order to avoid bandwidth issues.
7.25	Oneida County currently has a free GIS download from the NCWRPC site. The data is updated once a year. The survey does not indicate the currency of the data; if more current data would be required it should be subject to a fee.
7.26	Counties need to set their own programs, and set their own policies. The practice of allowing the state to require policy changes will result in a frequent, and premature need to change or update hardware and software, and a need to support potentially expensive programs which are used very little. Since this is a primary justification for the state wide parcel map, the requirement that counties provide the service greatly reduces any perceived value of the state wide project.
7.27	Eau Claire County would need to change our data sharing policy and build an infrastructure to distribute

data for download. Eau Claire County does not currently have a web server or host any websites. Pointing users in multiple directions for different data. There would be advantages from the user perspective to a centralized systems.

7.28	A little concerned with having to have the raster data available for download. These can be extremely large files. This could negatively effect bandwidth.
7.29	Ozaukee County currently does not have an ftp or a WFS site available. Our GIS data will be hosted by a third party and this may cause additional expenses to be able to provide the ability to download this data. Ozaukee County's WLIP funds currently only cover salary costs with a little extra for special projects, this could add additional expenses the County cannot pay for out of WLIP funds and the County may not allow to be paid for by general funds. It could put additional burdens on IT departments as well.
7.30	I would add LiDAR data (Contours/Raw files) to the Raster data exception. I could see LiDAR data causing problems with downloads because of size, etc.
7.31	Could the WLIP portal be organized such that there is the option for counties to simply post data directly to it? (A one-stop-shop). Perhaps a fee could be assessed to counties for space utilized?
7.32	Omissions: If the data is in 1 dataset how will omissions be handled (example: WIDNR Wetlands will need to be omitted per the WIDNR requirement). Technical barriers to implementation and institutional barriers: Clark County may have Technical or Institutional Barriers depending on how/where the data is hosted and served.
7.33	Nothing problematic. However, a more efficient way to do this would be for the state to provide free hosting of our master GIS data sets rather than having 72 different links, requirements for uploads, etc.
7.34	A7. I would support a third-party hosting option as this would provide consistency among all counties with regards to data sets, whether or not the county has the technology or support for their own server or service, and would continue to support standardized schemas. Third-party hosting would also allow easier verification on whether County requirements are being met. Counties could then have the option as to whether they provide their own downloadable site in addition to a third-party hosting requirement. County sites should remain independent from WLIP requirements.
7.35	WOULD PREFER THIRD PARTY HOSTING TO MAKE IT AFFORDABLE FOR SMALL COUNTIES.
7.36	Would prefer that all data gets sent to one spot and not multiple locations. Data would be hosted by third party and get updated on routine interval.
7.37	Our County IT Department policy won't allow data to be downloaded online from Jackson County servers. Jackson County would have to use a third-party or state agency.
7.38	I see a total mess unless the state puts policy and guidelines in place first and coordinates where and how these data sets will reside. They will also need to fund the effort to get it done and the cost to maintain cloud services, etc.
7.39	Taylor County does not currently have an FTP or WFS site. Taylor County's IT department would prefer files to be share from another party's server/s/.
7.40	again, there should be a clause for the Register of Deeds documents. While we are told these are not included in this data, I believe it needs to be spelled out, just to be safe.
7.41	ROD requires a viewing fee and a printing fee through our imaging company
7.42	Indication of timeframe to make data downloadable would be helpful
7.43	Some counties may need time to complete attribute fields, metadata, etc.
7.44	Overall this is a good object to have. It adds values. However the technical capacity for County governments in WI varies widely. Setting up a download of vector data is much more achievable than large raster and LiDAR datasets. I know of some circumstances where GIS staff requested a data download capability for LiDAR or high resolution orthophotography and were told that was not feasible.
7.45	A7. This will be a change management issue for our I.T. department. In this day and age of security, phishing, hacking and breaching, the parameters of this change must be secure and in line with our County I.T. policy.
7.46	A7. I guess this goes back to my prior response. I will expand though. I see it will not be required to post raster data from prior to 2018 as downloadable. Going forward will it be a requirement to post all subsequent rasters acquired after 2017? I actually think that perhaps we should consider posting our most recent pre-2018 raster dataset if we do not have a post 2017 raster dataset.
7.47	As I stated about, I believe a state download portal would be a better solution for storing the data than on a county by county level. I do like that there is an option for WFS included.
7.48	It must be made clear to any third-party host that expenses involved in hosting that data are not to be passed on to the providers, the charging of fees to access the data are not permitted and that access to the data must not require registration on the part of the downloader.
7.49	1- I would prefer the data be hosted by a third party for all counties. This also provides an independent back-up of the data. 2- Need data disclaimers.
7.50	Our county will probably attempt to use more than one method in an effort to have redundant systems as we commonly experience issues with the firewall associated with the FTP server.

Federal Government

7.51 OGC standards like WFS, WMS etc should be MANDATORY...NOT AN OPTION. It would also make sense to go beyond 'downloadable' to serving on a cloud service like Amazon. Since ESRI, DigitalGlobe, Planet already use Amazon to store their data, it would make sense for counties to do the same. Then access isn't downloading but just flipping a switch for access.

Private Sector/Company Located Within Wisconsin

7.52 A statewide geoportal that distributes priority datasets by bulk download and by web services would be preferred.

7.53 This is probably easier to accomplish than the Open Data Workflow

Private Sector/Company Located Outside of Wisconsin

7.54 many fed users like wildland fire and census need downloadable data

Educational Institution

7.55 A state geoportal should be designed to serve the needs of the state's citizens, including the private sector, non-profit organizations, private citizens, educators and students, and government agencies at all levels. The purpose of a geoportal should be to provide streamlined geospatial data access to individuals and organizations that can use the data in ways that expand its utility, thus enhancing return on investment and demonstrating the value of and need for quality geospatial data. Focusing on the user draws attention to issues like ease of discovery and access, and the importance of usability as an essential element in geoportal design. A statewide geoportal cannot be effective when viewed merely as a "checkbox" to fulfill an administrative requirement. This focus on usability has implications for the completeness and quality of metadata, the ability to perform searches by keyword or geographically, a degree of standardization in data format, consistency in interface design and system behavior when accessing different datasets, etc. In short, hosted data must be curated, its metadata must be created and managed, older versions of datasets must be archived, spatial footprints and keywords must be created, and so on. Exposing all WLIP-funded data to the public is a worthwhile future goal, but there is little to be gained by the exercise if users cannot make use of the data effectively. Providing access to all of these datasets without considering quality, metadata, completeness, and standardization will inevitably cause confusion. We cannot expect the increasingly heterogeneous user community to adopt and accept the terminology and logic of the geospatial community. If we really want to make our data usable and expand the breadth of geospatial data use in the state, we need to make an effort to communicate with users in ways that they will understand.

Other

7.56 Publish standard data models and attribute coding definitions.

Q8 - OPEN DATA DEFINITION OF "WITHOUT CHARGE"

	% Count	
I see nothing problematic about this requirement as it is written	77%	90
Comments/suggestions/changes you feel are needed to make the "Without charge" requirement satisfactory	39%	46

State Government

8.1 Nothing problematic with the definition Without Charge We support the concept of WLIP funded data sets to be obtained without charge to the requestor. This definition support the Open Data Principle of License-free and Online and Free. General Comments: Contract Language: DOT suggests WLIP create consistent contract language to use in WLIP service provider contracts that gives the county full ownership of the data created under contract, without restriction - including allowing the county to openly share the data as per the WLIP. This is especially true of aerial imagery and LiDAR data.

County or Local Government

8.2 As this is what is currently done; this statement has no merit and should be eliminated.

8.3 I am not in favor of the "without charge" County has to maintain all data and create all data. Shouldn't the county be able to recoup some costs for this data?

8.4 This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.

8.5 - No problem as long as grant funding remains available. - "Without charge" should be limited to those using the download option. Counties should still be able to recover costs if requesters choose not to use the available download option.

8.6 I don't know how this is feasible as i have heard multiple opinions on what falls under open records in regards to GIS data that Counties maintain and/or collect, create etc...

8.7 Already compliant

8.8 See A7. These 6 datasets are free of charge when obtained from the download portion of the County mapping website. Any requests for data produced on a specific date, or data manipulated to the customer's requirements will be subject to customization fees.

8.9	I can envision this as being an issue with counties that contract with 3rd party vendors. They may wish to recoup their costs through charges for information.
8.10	This requirement will affect counties that charge for data. This requirement will not only eliminate revenue from data sales, but will also effect ongoing partnerships that are structured around fees for data. Without charges for data, it will be harder to maintain the partnership and leverage shared funding for large countywide project. The Strategic Initiative Grants will not provide as much funding as partner contributions.
8.11	This requirement will affect counties that charge for data. This requirement will not only eliminate revenue from data sales, but will also effect ongoing partnerships that are structured around fees for data. For the example Fly Dane. The funding was established so that those that didn't help fund a project would have to pay something after the project was completed. Without charges for data, it will be harder to maintain the partnership and leverage shared funding for large countywide project. The Strategic Initiative Grants will not provide as much funding as partner contributions. It is also worth considering that this requirement is negating a possible funding source for the WLIP. The land records community is constantly discussing the need for additional funding to accomplish various objectives. This requirement is not considering the value of a statewide data to the private section. For example, a nominal licensing fee for statewide road centerlines and its value to a company like HERE Maps. The value of a single statewide dataset and developing on corporate agreements could help fund a state data repository and/or other land information efforts. This speaks to the need for a single state data repository instead of 72 different sources.
8.12	There would need to be specific definitions on what is considered custom or not. For example, if someone only wanted a portion of the data for a layer, is that considered a custom request or is that something that should still be given free of charge. For parcel data, that is created using not only GIS mapping but also assessing records. People have to pay for getting their land surveyed, so shouldn't the accurate GIS entry of this information also have a payment associated with it? Especially because the city currently receives no payment from the county for even providing them that information.
8.13	No problem for data obtained with WLIP funds only.
8.14	See Q7. In addition, should funding be revoked in the form of strategic initiative grants, state and local entities should find a mechanism to be able to fund this program. An example would be user fees paid to the state and distributed to Land Information Offices, or by the County to be used to maintain server systems.
8.15	A8. We provide the county's extent for data sets and not a custom clip.
8.16	This "without charge" for open data as written currently goes against our existing policy for acquisition of digital data from the County, this would have to be brought to Committee.
8.17	Shawano County Registrar Amy Dillenburg would like to be clear that the ROD records will not now or at any time in the future be part of the 'free' information regardless of whether or not land records funds or land records grant money was used for this purpose. Any work on modifying the data from its native stored format should also be chargeable...only data in its native and unmodified dataset and format is free. For example...A user can get the entire parcel layer for free but if they want just those parcels of 20 or more acres that would be a charge.
8.18	Access to GIS or tax roll data made available once a year would be free, however if there is a request for data beyond the initial upload to provide current data, that should be subject to a fee.
8.19	The supporting paragraph above allows the "reasonable cost of reproduction". The policy, as written, is contradictory, as it says only "without charge". This policy, as qualified by the supporting paragraph, allows counties to charge and collect fees in exactly the same manner in which they are currently allowed. This policy therefore accomplishes nothing, and should be eliminated.
8.20	This will be a change for us.
8.21	As long as the County can charge fees for special requests that is all I care about. Special requests eat up large amounts of time and without fees being charged for them we would spend our time doing nothing but special requests.
8.22	Ozaukee County does not have any issues with this as much as we actually do not bring in a substantial amount of revenue with Product requests, however, I can see some Counties would rely on their product revenue more than others.
8.23	I would add something about custom GIS data analysis/conversions to the "special requests for custom map making and printed maps" part. Also, I would recommend that the Raster data/LiDAR data exception be added to this.
8.24	Keep in mind that unless the state does the hosting then the counties are always going to be the only place where users can get current GIS data and attributes.
8.25	A8. I see problems with Counties being required to change or make exceptions to existing policies to receive WLIP funding. I would rather see that the County be required to provide the State data sets that were funded entirely or partially through WLIP monies. WLIP funding could be provided to the Counties with the requirement that counties provide new and/or maintained data to the State with "No Restrictions". The State then establishes its own policy on how to provide access and distribution of all

data received. This way the State becomes the lead with their implementation of "Open Data" and does not need 72 counties to conform to its policy. It would also be much easier for the State to administer its own policy rather than trying to police the distribution policy of each county. The public users would naturally gravitate to the State or County site that has the most "Open Data" policy. The State and Counties can set their own data fees independently; so if the State provides the same data without fees, there would appear to be little incentive for the County to charge for that same data?

8.26   Anything "free of charge" is going to make things hard for the ROD offices, as we are under State Statute to charge for all of our documents. It will be confusing to the general public I'm afraid. I think anything "free" can be a problem.

8.27   The biggest problem for some counties will be explaining to their already struggling County why this data has to be free of charge. Some counties may use some fees to justify the department (even though the department may bring in grants, that's just how County Boards think).

8.28   It may be time to consider elimination the Register of Deeds copying fees (s. 59.43(2). to make recorded documents "Open Data". I realize this opinion may not be popular with RODs, but it would make recorded documents open.

8.29   Jackson County will have to change the data fee structure.

8.30   In some cases funding may be a combination of WLIP money and other funds - in this scenario the inability to charge for that data may eliminate the sustainability of that data.

8.31   Without charge for the data as-is. Any processing or additional analysis serves as an important source of revenue for many counties.

8.32   People who read this will automatically think everything will be available without charge when there is a statutory fee for recorded documents. This language may create conflict with our valued customers and constituents. Statute 59.43(2) requires the ROD to collect a fee.

8.33   Other fees such as custom mapping, printing, design, etc. do require special charges.

8.34   This should not be a problem if the state funding is enough to support the creation and sustain the distribution services.

8.35   see A6 above

8.36   There is something I would like expanded a bit here... if funds are used to maintain a data set one year but are not used in subsequent years, does that data set need to updated and available for download every year?

8.37   1- Should only require data maintained by the county. Villages, cities and towns might have other data. 2- Need data disclaimers.

8.38   This is how we already operate; our fee schedule is very reasonable for custom maps ($10 for the largest size we can print). We also offer free maps to clerks in years of Presidential Elections so that they can comply with polling place regulations.

Federal Government
8.39   See previous comment...use the cloud and it will be cheaper and faster for all.

Private Sector/Company Located Within Wisconsin
8.40   As long as counties are able to recoup costs of any special requests, then this is perfectly fine. Most people that want data have GIS software, hardware and the skills to use the data. Those that don't are the ones who need special request. So the County is essentially providing this service to people without GIS software, hardware or skills, so they must be able to recoup those costs.

Educational Institution
8.41   We agree with the idea of making data available without charge, assuming this could be enforced fairly and consistently.

Other
8.42   Publish a representative fee structure.

Q9   - OPEN DATA DEFINITION OF "WITHOUT RESTRICTIVE LICENSURE"

	%Count	
I see nothing problematic about this requirement as it is written	75%	87
Comments/suggestions/changes you feel are needed to make the "Without restrictive licensure" requirement satisfactory	35%	41

State Government

9.1   Nothing problematic with the definition Without Charge We support the concept of WLIP funded data sets to be obtained Without Restrictive Licensure to the requestor. This definition support the Open Data Principle of License-free, Non-proprietary and Non-discriminatory. General comment: There are occasions when DOT needs to purchase parcel data and sign usage agreements through the local County Land Information Offices. The result of this initiative may save us from engaging in those activities to obtain the data we need, so it's a move in the right direction if we are able to increase cost-effective access to quality data.

County or Local Government

9.2   Counties should be able to decide how they would like to restrict or not restrict data. Changes regarding licensing should be addresses by legislation not an agency.

9.3   I currently print a disclaimer on all maps I print for the public stating that the data is probably wrong and that only a licensed surveyor can legally and accurately determine the boundaries of a property. Parcels were originally drawn from many-hundreds-of-thousands of Deeds and Plats, each with their own errors, on a PLSS grid with no known corners, sometimes with starting points that were the intersection of two railroad tracks that haven't existed in over fifty years. Then the parcels were overlaid on a topo map or air photo and boundaries may be several hundred feet off. All this may be disclosed in the metadata for layers provided, but those are like the EULAs everybody agrees to without reading. If there is no license, there is no upholdable suitability for use statement, which may lead to confusion, chaos, and mass destruction.

9.4   This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.

9.5   Already compliant

9.6   Subject to the County's Corporation Counsel opinion.

9.7   Data should be view-able only. Publishing and distributing should have a required disclaimer. It should never be adaptable. It should be considered that all counties have different data standards and should be viewed as a general representation. Data is not static and can change on a daily basis, which would mean users who downloaded it may be viewing or publishing old or bad data without realizing it.

9.8   Again this would be based on the contract language with a 3rd party. We fly aerials with Pictometry and get the Othophotographs as a database, however the obliques are held by Pictometry and can only be utilized by agencies through a license. Any information provided to Pictometry obliques basically become the ownership of Pictometry and can be distributed by the company through a copyright clause that they have in place.

9.9   There needs to be some protection for the data developer from suits or liability for errors, omissions or misuse of the data that may not be covered by a disclaimer. This speaks to the need for a single state data repository instead of 72 different sources.

9.10   If the complete parcel dataset contains data provided by other municipalities and they wish to enforce a restrictive licensure, is the County obligated to follow suit? At the very least, it may create an obstacle to data sharing.

9.11   There needs to be some protection for the data developer from suits or liability for errors, omissions or misuse of the data that may not be covered by a disclaimer. This speaks to the need for a single state data repository instead of 72 different sources.

9.12   The disclaimer on accuracy is important as mentioned, but also a disclaimer that it cannot be sold to outside groups to make a profit would be desired. I understand the need to make it freely available without restriction, but we wouldn't want to blamed for misunderstanding of outdated information.

9.13   No problem for data obtained with WLIP funds only.

9.14   See Q8. Also, counties should not be held liable when the end user uses data in a manner that was not intended for its original use and results in poor decisions and bad analysis.

9.15   A9. Eventually there will be privacy concerns, i.e. mass mailings or private use of public data for marketing.

9.16   This "without restrictive licensure" for open data as written currently goes against our existing policy for acquisition of digital data from the County, this would have to be brought to Committee.

9.17   At a minimum there should be a general data disclaimer limiting liability of the data providers due misuse of the data or accuracy issues. This base disclaimer should apply to all data acquired through the LIO offices for all counties and automatically applied to all data secured through the state portals.

9.18   The specific language of this requirement would need to be reviewed by the County Corporation Counsel.

9.19   However the state chooses to describe them, no county has ever, or ever will have "arbitrary restrictions" in place. Any existing concerning licenses, copyrights, or restrictions are well thought out and necessary. Policies concerning their use need to be made by the agency that generates the particular data set. Changes in the policy making authority of counties must be made with due process, by the legislature. Not by the bureaus.

9.20   This will be a change for us. We will continue to use a disclaimer.

9.21   As soon as the data is downloaded we would give up all control of the data with no restrictive license. This might cause problems for the counties having to field calls about data from a third party.

9.22 | Ozaukee County sees a problem with "There are no restrictions on copying, publishing, distributing, transmitting, adapting, or otherwise using the data for non-commercial or commercial purposes" We understand open records states, according to most legal interpretations, that we cannot ask what a requestor is going to use the data for" however, some Counties feel that businesses should not be able to make a profit selling data obtained from a County at no cost. Some would consider the development of parcel data from a document as custom data which is copyrighted material and it is a grey area which may need to be discussed further. Some would want to see the definition of open records on the legislative end be better defined as to whether or not new electronic and/or digital data constitutes an open record before surrendering the ability to receive revenue from these types of datasets.

9.23 | Will State data, like Wetlands inventory, be available without restrictive license requirements?

9.24 | Such disclaimers could also mention best-practice/need to cite sources and describe alterations made to the data (when altered from its original form).

9.25 | A9. WLIP funding agreements can be made with County requirement to provide back data sets to the State with No Restrictions. The State should not dictate to the County how the County should distribute to the public. I believe over time, more and more Counties would just take the State's lead on their data policy, especially if more "Open" than the County sites. The State can require County data, and that it meet certain standards as part of receiving WLIP grants, but I don't believe the State should try to initiate policy between the County and the Public. The State should develop its own sites and policy for the public, and users will naturally gravitate to the most open, free, non-restrictive, and easy-to-use service(s).

9.26 | Our data is very important and it shouldn't be free and available to just anyone. Our data should be treated with all due respect and it should be protected....which means it shouldn't be available for anyone to get and distribute wherever they want. Watermark it!! People abuse everything!

9.27 | Absolutely this data must have data disclaimers, errors and omissions language, etc. Requiring counties to provide this data for free should not put them in the way of any risk or liability. If the State hosts the data, they should have blanket statements that cover all counties.

9.28 | Some of the data that is collected and delivered to us has limitations stated in the contract as to whom the data can be shared with and in what formats. That would be in direct conflict with this requirement. Many times counties prefer to use local contractors since that supports the goals of the county to be a good partner with local businesses. This type of over-reaching governance could be in direct conflict with that goal since it may favor larger more "National" firms that are geared towards "winning" government contracts.

9.29 | Again a clause for those documents that have a statutory fees as listed in the previous question.

9.30 | Whatever is viewable can be print screened and saved for free.

9.31 | Data downloaded should include the disclaimer that does not guarantee accuracy. Each county likely has a different disclaimer that should be considered as part of the dataset.

9.32 | A9. This would need to be vetted by our corporation counsel.

9.33 | 1- Should only require data maintained by the county. Villages, cities and towns might have other data. 2- Need data disclaimers.

Private Sector/Company Located Within Wisconsin
9.34 | I believe that this is part of the responsibility of a County Land Information office. Disclaimers are the only thing they should be concerned with anyway. The data they maintain is public information, not intellectual property.

Private Sector/Company Located Outside of Wisconsin
9.35 | Oblique aerial imagery requires a specialized licensed software to make it "intelligent". Therefore oblique imagery would need to be treated differently from ortho imagery since orthos can be used in many off the shelf software.

Educational Institution
9.36 | We agree with the idea of making data available without restrictive licensure, assuming this provision could be enforced fairly and consistently. A standard Open Data license would be the most convenient for users. One note: the wording of Q9 is a bit confusing. We suggest the following: "Q9. Without restrictive licensure means (a) without license, copyright, patents, trademarks, contractual terms, or other arbitrary restrictions, or (b) published under a well-known Open Data license such as an Open Data Commons license."

Other
9.37 | Require the Open Data License travel with all derivatives.

Q10 - OPEN DATA DEFINITION OF "COMPLETE"

	%	Count
I see nothing problematic about this requirement as it is written	73%	84
Comments/suggestions/changes you feel are needed to make the "Complete" requirement satisfactory	39%	45

State Government

10.1   Nothing problematic with the definition of Complete We support the concept of WLIP funded data sets to be made public This definition support the Open Data Principle of Complete, Accessible and Documented.

10.2   A10. I would add *any* before WLIP retained fees so that the first sentence reads "Complete means that all public data funded with ANY WLIP retained fees or grants is made available."

10.3   Please see question 1

10.4   Again the only issue I see may be in Criminal Justice Issues. i.e. any data showing details of burglarized home. I do not think the data I have seen has shown this, but something to keep in mind for new data.

County or Local Government

10.5   It is the counties responsibility to protect the privacy of its citizens. As this is already a practice in most counties this statement should be eliminated.

10.6   What is the plan for data NOT funded with WLIP retained fees or grants? Iron County has created an address layer and a roads layer on their own to be used in their E911 system. Neither was funded by WLIP money but both have been requested in the past and my be made mandatory in the future.

10.7   "Made available" does not mean download - I am ok with all data being made available to the public for view at no cost. But as I stated prior, downloads of data sets should not be allowed free of charge.

10.8   I understand this is a survey related to WLIP and needs to focus on data compiled primarily by counties. However, the open data benchmark should be one part of a broader statewide strategy. There is geospatial data maintained by state agencies and local government that are also difficult to obtain. Although not necessarily WLIP funded, that data is publically funded and should also be in the public domain. The OTL, repository or whatever comes from this benchmark should be completed in a way that recognizes and supports this broader open data vision.

10.9   Already compliant

10.10 There are also serious implications of funding the infrastructure (at the local level) required to provide WLIP funded imagery (high resolution color SID's, LiDAR, etc.) in searchable format for download.

10.11 The wording privacy, security or privilege limitations is vague. My definition of security and privilege limitations may not follow what others are thinking. I believe this should be explained and focus in on particular criteria required.

10.12 Jackson County has a "confidentiality" form which land owners expect to remain unidentified from ownership. Either we kill this form, or we offer an option to remain confidential with the State website. We'd need to figure that out.

10.13 Any record that would be provided is as complete as it can be at the time of creation. Also, policies from county to county may be different and thus result in varying availability to data.

10.14 It is unclear what is being asked? Any record that would be provided is as complete as it can be at the time of creation. Also, policies from county to county may be different and thus result in varying availability to data.

10.15 - Does this requirement include all existing/historical datasets or new/maintained datasets created from this point forward?

10.16 This would need to be defined before I would feel comfortable. What level accuracy is minimally required? Does the county have the ability to redact the information for any reason or do those need to be defined more clearly?

10.17 Would each county make the decision on what should or should not be redacted, or would all counties be subject to the redaction should a consensus be formed about the data. (i.e., using names in parcel data. Should all of the names be removed completely, subject to search only?)

10.18 Again this should be limited to data in its native format. Completion of any queries or other modifications should be the option of the data provider and should be chargeable.

10.19 It would be preferred that the data sets be named here as some may be too large to accommodate requests. If there is truly going to be a statewide access to parcel data, all tax roll data with names should be made available so it benefits the users.

10.20 The purpose of this section is unclear: Act 20 did not give DOA authority the require that counties post data in a way which does not conform wtih the existing open records law. The supporting paragraph is clear that the county will continue to be the deciding authority on issues of what is, or is not complete. The policy therefore accomplishes nothing, and should be eliminated.

10.21 Would like clarification on the term granularity.

10.22 Ozaukee County sees this as a potential problem with some counties who have an opt out capability for their GIS websites but it would incur additional costs to redact names from both the set given to the DOA and maintain that set as well as the full tax assessment roll and the GIS website dataset. There is also the issue to consider, for instance,where the municipalities maintain their own municipal dataset, such as Saukville does in Ozaukee County and they allow access to their assessment dataset through the County's GIS website. This may or may not be an institutional barrier for us.

10.23 As long as we define "Complete" as you have done further on in the survey, I have no problem. I would rather not dive into derivative and intermediate analysis products being published and requiring metadata.

10.24 Some data may be hard to determine if WLIP funding was used to create. Much of our data was created by 90% levy dollars and $10 WLIP funding.

10.25 We already do this on our website. DOA would have to link to our data or host our data. Time spent uploading data to DOA is wasted time.

10.26 A10. With the Counties applying for and accepting WLIP grants, data should then be furnished to the State that meets their predetermined standard. Any permitted and necessary redaction should occur prior to the County supplying data to the State. The State only needs to be concerned with data received from the Counties. Counties, if they wish, could then implement their own sites independent of the WLIP. Counties would continue to have their discretion of what data and services to provide from their sites.

10.27 Should only include data or attributes maintained by the county

10.28 Redaction is very expensive!! Somethings don't need to be made public! This could be very expensive for the counties.

10.29 There is a fine line between "public data" and "private data". This needs to not be so open ended. Instead, the WLIC should develop a list of what types of datasets they want to be made available for download if the Counties have produced such datasets.

10.30 It may be time to consider elimination the Register of Deeds copying fees (s. 59.43(2). to make recorded documents "Open Data". I realize this opinion may not be popular with RODs, but it would make recorded documents open.

10.31 Jackson County has a courtesy policy for names not to be public.

10.32 Redaction comes at a high cost since it is usually requires manual labor and not automated procedures. This could make it unreasonable to even try to supply a data set.

10.33 Counties use monies from the WLIP retained fees to help the Register of Deeds office projects such as back scanning and indexing - these items should not be included in the "complete" data.

10.34 59.43(2)applies

10.35 Some counties have privacy ordinances in place prohibiting Name search. As it is, the plan appears to address that issue by allowing counties to redact Names if they have concerns.

10.36 Counties may need time to allow for completeness of data, null fields, redaction, ownership changes, etc.

10.37 This is not a problem for primary datasets (i.e. core framework layers, and data). It is a problem if the intention is to expose more detailed piece of data. For example if the assessment database were subject to these rules if would be very technically difficult to make all of the internal systems data accessible to the public in a downloadable format. It took weeks to compile and reformat the data necessary for V2 parcel requirements. Our municipality currently exposes much of these data through an online user interface provide by our software provider. In addition we compile downloadable data for information frequently requested by the public (http://opa.ci.oshkosh.wi.us/pt/forms/htmlframe.aspx?mode=content/file_downloads.htm). Working toward accessibility of this type of data is reasonable. However saying "all public data funded WLIP retained fees or grants" will in many cases be technically problematic.

10.38 A10. This term is vague. Could the State provide a clear and concise list of the data that will be open. We use grant monies for E911 and other internal datasets. Would these need to be open source as well?

10.39 A10.What about data that is not ready or incomplete. In some cases bad data might be worse than no data. My question is if there was data that was created in part due to funding and that data is still a work in progress will we need to post and make it available or can we at least wait until it is finished? For instance an unfinished zoning layer could be misused or lead to confusion. I know it likely would be protected by disclaimers but sometimes stuff isn't ready for consumption. Where would that line be drawn?

10.40 I'd like to also add, "any possible sensitive data set which is under review, to be determined at the earliest possible date".

10.41 1- Should only require data maintained by the county. Villages, cities and towns might have other data. 2- Need data disclaimers.

Private Sector/Company Located Within Wisconsin

10.42 Similar comment as above with the addition that counties shouldn't be able to pick and choose what they make available. Anything they maintain as part of their normal operations should be made available. Though data that is created for a specific, "one-time" project should not be required to be made available as any data that's maintained outside of the County's Land Information Office. For example, data that County GIS staff maintain for E911 or Highway, shouldn't be required to made available to the public. The County's should have the ability to use reasonable discretion as to what data they maintain is suitable for making available to the public.

Educational Institution

10.43 We agree with the idea of making all WLIP-funded data available. In fact, this statement should be made stronger to include data even partially funded by the WLIP, as follows: "Q10. Complete means that all public data funded or partially funded with WLIP retained fees or grants is made available."

Other

10.44 Publish guidelines for redaction of owner names as necessary. Standardize statewide ASAP.

Q11 - OPEN DATA DEFINITION OF "DATA"

	%	Count
I see nothing problematic about this requirement as it is written	**77**%	88
Comments/suggestions/changes you feel are needed to make the "Data" requirement satisfactory	38%	43

State Government

11.1 Nothing problematic with the definition of Data We support the concept of WLIP funded data sets to be made available to the widest range of users for the widest range of purpose. This definition support the Open Data Principle of Accessible, Machine Processable, Primary and Timely. Comment on Data Format – what are WLIP expectations of specific next generation formats that meet these specified criteria? What may be a single or limited set of formats that all counties (and even the state) must be able to exchange data with, to reduce the number of formats users would need to have solutions to support? Shapefiles may not be it – it has limitations.

11.2 A11. I would add *any* before WLIP retained fees so that the first sentence reads "Data means electronic data funded with ANY WLIP retained fees or grants."

11.3 Again the only issue I see may be in Criminal Justice Issues. i.e. any data showing details of burglarized home. I do not think the data I have seen has shown this, but something to keep in mind for new data.

County or Local Government

11.4 As each county has their own software programs they should be able to utilize what works best or is compatible for their respective systems.

11.5 Would need to know what the "commonly-used, searchable, machine-readable format" is.

11.6 What is the one format to rule them all? GPX, JSON, and shapefiles fit the definition as written in the question, yet the State requires data to be submitted as geodatabase, even though not all GIS programs work with them natively. Can the County then request a fee for "customers who make special requests" [from Q8] from the State for such data-conversion services?

11.7 This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.

11.8 "Commonly Used", "Searchable" and "Machine read-able" are all open for interpretation. What is really going to be required? If I provide data as a fGDB, but don't also include a CAD option will I still meet the requirement? My experience tells me that if we don't include GIS and CAD options we are missing a significant segment of users. I'm not looking to make this more onerous than needed, but I also want to be clear about the demand we are satisfying (or not). For each of the foundational element benchmarks, I think we are going to need to specify the formats that will be required to meet the open data benchmark as it relates to that foundational element.

11.9 Already compliant

11.10 This statement should also include "To the extent provided by law"

11.11 Suggest adding "normally maintained by the custodian:" or something similar to the end of the Q11 sentence.

11.12 Our GIS data has been created throughout the counties land information history with and without funding. It could be difficult to comply to state searchable format after using it for county wide use for so long. It is most important to meet the counties and local tax payers needs and focus on our daily tasks. It is also important to consider that in rural counties, local taxpayers who use this data may be a farmer looking for a paper map of his farm land since he has no computer or internet.

11.13 As long as the criteria are laid out in advance, I do not see any challenges that can't be overcome. (JM)

11.14 In our opinion accessing data from the county in its current form is fine. It becomes problematic when this data needs to be extracted transformed and loaded to conform with a different format. The county maintains this data in a particular format and schema that supports internal workflows and third-party solutions.

11.15 It is unclear what is being asked? All the issues connected to questions 6-10 have a bearing on this answer.

11.16 - GIS data formats should be defined to a specific number of industry standard formats.

11.17 This format would need to be specifically defined of course, but some flexibility would be helpful.

11.18 "Data" is plural. "Data include the following…" What is a commonly used, searchable, machine-readable

format? I'm picturing an android sitting in a recliner with a newspaper. Who determines what that format is? Is everyone going to need to re-do the schema of their data to comply with whatever standard is supplied?

11.19	This is not clear enough. At what point is "data" funded by WLIP grants? If my position (GIS coordinator) is funded 10% by WLIP funds and I edit a road centerline layer is that layer then "Funded with WLIP fees"? Where's the line?
11.20	Oneida County already complies with this requirement, but cannot predict what the impact would be for future formats but would try to comply. May need funding to accomplish.
11.21	This policy should be specific that decisions concerning what a "commonly used, searchable, machine readable format" is must lie with the county.
11.22	I could see issues with multi source funding. For example some counties such as Douglas County have full time employees that are working on projects together with LTE positions. The Grant monies we get help fund the LTE position so only a portion of the "data" is created by the WLIP funding. How would the state address situations like this?
11.23	How would the State deal with data that is not fully funded by the WLIP? Counties may receive funds from grants and retained fees but still contribute with County funds and staff hours.
11.24	Make a list of formats/media that meet the "commonly-used, searchable, machine-readable format" requirement.
11.25	Should there be some effort to implement preferred file formats (for posting data)? Not sure if preference can really be exercised.
11.26	A11. Any data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
11.27	Should only include data or attributes maintained by the county. Not sure what is meant by commonly-used?
11.28	It may be time to consider elimination the Register of Deeds copying fees (s. 59.43(2). to make recorded documents "Open Data". I realize this opinion may not be popular with RODs, but it would make recorded documents open.
11.29	Depends on the data.
11.30	While the data required is of great value and standardization is necessary, a lot of county-maintained data sets are either incomplete or non-standardized. Leniency on the DOA's part will be necessary as county staffing/funding is at a premium and there is already a laundry list of requirements to meet.
11.31	This doesn't seem to be complete. Q11 implies that it will give examples of what data is but then doesn't show anything. If data is meant to be what is listed in Q12-Q20 then this is a bit confusing.
11.32	The Register of Deeds data is electronic also - it should not be included.
11.33	59.43(2)
11.34	Indication of what is meant by "Commonly - Used" would be helpful
11.35	A11. A bit vague. Shapefiles, geodatabases, excel spreadsheets, is this opening us up to too many request types, putting pressure on both the GIS office and the I.T. department. There should be clearly stated policies for how, and what, data will be distributed.
11.36	A11. You may need to define what constitutes commonly-used, expand on searchable, and clarify machine-readable.
11.37	If searchable formats are required for most layers, some counties may need tools like have been provided in the parcel data sets.
11.38	1- What is meant by commonly-used? I think the acceptable formats should be listed. 2- Should only cover data maintained by the county. 3- Need data disclaimers.
11.39	Due to the lack of technical expertise and staffing in our County, we have multiple layers of some files that were created by past staff. It may take our county an extended period of time to identify the correct layer, improve it to meet state standards (create metadata, add appropriate attributes, etc.), and make it available for download. Due to this issue, when maps or data is requested we try to find the most accurate layer available. We have been continuing to work on eliminating non-essential files and developing metadata for layers that we are keeping and making available to the public.

Federal Government

11.40	Data is too vague. Be specific: Geospatial data? Remote Sensing data?

Educational Institution

11.41	There is no reason to repeat the WLIP funding statement here, as this is more appropriately discussed in Q10. We suggest changing the question as follows: "Data means any electronic data including the following, in a commonly- used, searchable, machine-readable format."

11.42   Spatial data and tabular data are equally covered.

Q12 - PLSS [DATA]

	% Count	
I see nothing problematic about this data layer description as it is written	**77**%	88
Comments/suggestions/changes you feel are needed to make the data layer description for PLSS satisfactory	39%	45

State Government

12.1   Nothing problematic with the description of PLSS However we have several questions/comments: Owner Data: The DOT suggests that owner name and contact information associated to each parcel be required. At the very least, parcel addresses should be required (even though this alone would be problematic for rental properties). This information is invaluable to roadway project activities for both state and local transportation agencies, various compliance and land use needs for aeronautics (associated to airports), and potentially for processing annexation transactions associated to the local and state highway programs. Corner Data Requirements: The WLIP should require counties to make all PLSS corner-related data that exists (tie sheets, condition, metadata, coordinates (if known) etc.) available online for all PLSS corners in their county.   Height Modernization Stations: The WLIP should increase the awareness of and restoration liability of Height Moderation stations impacted by field work crews (utility, roadway, other), especially if they are published by the National Geodetic Survey in their National Spatial Reference System (NSRS) database. GNSS RTK Procedures: WisDOT plans to have updated surveying specifications on GNSS RTK survey procedures in April, 2017, and is very willing to share those specifications for use in the WLIP. The surveying of PLSS with WisCORS has greatly enhanced a county's ability to survey section corners to establish horizontal coordinates for use in GIS mapping.

12.2   Corner end points would be ideal to align county data sets that are now being brought together into statewide layers.

County or Local Government

12.3   As I am not a surveyor I don't feel qualified to answer this question. I differ to our LIO's response "should not be a required element."

12.1   As long as the State is willing to supply the hosting service for thousands of images for public access. Many counties (including Iron) use LandShark to access the documents in the Register of Deeds office. Iron County is currently working on scanning backwards in the vault to supply historic documents. A decision will have to be made before they get to the tie sheet books as to whether those scans will be in the LandShark system or somewhere else, and where that might be.

12.2   We would like to make available the most up to date information but a "published" vs. "unpublished" may be necessary. This is where in the field some monuments have been places but it's not verified yet, sometimes this information may take up to 6 months before it's published or ready for public view vs. surveyor view.

12.3   The county does not have tie sheets, we would need to acquire them.

12.4   Make PLSS mandatory, but clearly state that other geodetic control and control networks are optional. If the intent is to make other geodetic control and control networks mandatory, then you will need to better define what they are and what is required.

12.5   This information is already available on-line via the State Cartographer's Office website on ControlFinder and PLSSFinder applications. Our website just introduced a GIS tool to locate all Plats of Survey and CSM's on a parcel in the county and if recorded, the user will be linked to the Register of Deeds' Office document access tool- TriMin- to get a copy of the document being sought.

12.6   Vilas County already has this document accessibility available which is updated weekly along with the other mapping website data. Tie sheets and surveys are scanned and linked to the appropriate corners and parcels. Links to additional resources are also provided on the County's mapping website.

12.7   Our PLSS monument data was given to our land information office by our county surveyor in a format that is simple and easy to use. X, Y, Z data was imported into our GIS and that is all that is necessary.

12.8   Ashland County did not have a full-time county surveyor until 1998. Therefore, the tie sheets have been filed in the register of deeds office and treated like any other recorded/filed real estate document, except there is no recording fee. Since the tie sheets are integrated with all other recorded real estate documents, it may be difficult to provide access to the images by hyperlinks from a data layer.

12.9   The monuments themselves are points and are the foundational dataset. However, the PLSS can also be displayed as lines that have a relationship to the parcel data. The data can also be represented as polygon features identifying Town, Range and Section. With this there are also the second and third divisions, for Quarter Section and Quarter-Quarter Sections. It is also need to be consider how water bodies are defined in the PLSS and how are those defined by a Surveyor. The requirement for all online tie sheet, needs more input for the County Surveyors and what has been scanned and how will they be made online. Another, factor is that some counties charge for access and imposing the Open Data requirement does not trump county resolutions. If you take that revenue source away how will that be made up somewhere less?

12.10	There needs to be a consideration of how the PLSS data will be displayed. The monuments themselves are points and are the foundational dataset. However, the PLSS can also be displayed as lines that have a relationship to the parcel data. The data can also be represented as polygon features identifying Town, Range and Section. With this there are also the second and third divisions, for Quarter Section and Quarter-Quarter Sections. It is also need to be consider how water bodies are defined in the PLSS and how are those defined by a Surveyor. The requirement for all online tie sheet, needs more input for the County Surveyors and what has been scanned and how will they be made online. Another, factor is that some counties charge for access and imposing the Open Data requirement does not trump county resolutions. If you take that revenue source away how will that be made up somewhere less? Access and distribution of these datasets, points to the need for the State to provide a Central Geospatial Data Repository.
12.11	We don't define these, so it is not applicable for the city.
12.12	A12. This is currently hosted by the SCO.
12.13	Having tie sheets available is a great goal...however this definition does not make any room for alternative methods of having them available. Shawano County does have theirs available but not in a hyperlinked GIS layer, to do this would require large amounts of work that would be better off spent making data available that is not currently available... The goal is to have this information available and easily accessible...the particular method should not matter as much.
12.14	Our county maintains some survey control networks that include data obtained from private firms. Those firms have requested that the data not be shared outside the county surveyor's office.
12.15	Oneida County already complies, but need clarification what 'Other Geodetic Control Networks' means. The custodian of the network should be responsible for their own network and publication thereof.
12.16	While PLSS is an important base element of any Wisconsin GIS, counties need to retain policy making authority, including the priorities of spending for all land information base elements. PLS is a fundable, foundation element. But, it should not be a required element.
12.17	Please describe any other sub-layers associated with the PLSS.
12.18	need more description of "Other Geodetic Control and Control Networks"
12.19	I would only want to input those corners that have Survey grade GPS on them. GIS generated corners are not accurate enough for survey purposes. Could cause confusion for surveyors.
12.20	Douglas County already has a webpage that we maintain with this information.
12.21	Remove as a required layer for now would be preferred. Keep the PLSS Layer for "clickable" Tie-Sheet image only. Does this requirement duplicate of http://www.sco.wisc.edu/plssfinder/plssfinder.html
12.22	Again, we've been doing this for years. Seems like a waste of taxpayer dollars for all of this duplication at the state level. Links to county sites will be sufficient unless the state takes the leap and decides to host all county GIS data sets for counties rather than having counties pay consultants for hosting. Then the state could have a state-wide GIS web app that pulls data from this master data set that contains the most current GIS data from each county... No data uploading required or necessary!!!
12.23	A12. Any PLSS data acquired through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
12.24	One of the benchmarks for WLIP should be to have a County Surveyor in each Wisconsin County. If we are going to allocate WLIP funds for PLSS work, a qualified individual should be in place to oversee this important work. Following completion of remonumentation projects, that qualified individual should remain in place to maintain those corner locations. This applies even in Counties that have already completed PLSS work. Many remonumentation projects to re-establish PLSS corners have taken place since the 1970s. Many Wisconsin Counties do not have County Surveyor staff to perform maintenance on these older corners. Now is the time to address and remedy this problem. (BM)
12.25	One of the benchmarks for WLIP should be to have a County Surveyor in each Wisconsin County. If we are going to allocate WLIP funds for PLSS work, a qualified individual should be in place to oversee this important work. Following completion of remonumentation projects, that qualified individual should remain in place to maintain those corner locations. This applies even in Counties that have already completed PLSS work. Many remonumentation projects to re-establish PLSS corners have taken place since the 1970s. Many Wisconsin Counties do not have County Surveyor staff to perform maintenance on these older corners. Now is the time to address and remedy this problem. (RR)
12.26	Is there a standardize format?
12.27	Would this data hosting be the responsibility of the individual county or would the PLSSFinder be the 'official' repository for all things PLSS? By placing the hosting duties on each county limits accessibility whereas a single-source would (likely) be most convenient for those seeking data.
12.28	Funding possibilities for development of the "linking mechanisms".
12.29	Section and Quarter section lines and their distance/bearings as well as resulting polygons deserve a mention, perhaps.
12.30	Language is ok, however what level of completeness is intended here? Some 1/16, river and private claims corners are part of the PLSS, but may not have a tie sheet associated with them. This could be costly if included as a requirement for the plan.

12.31	Manitowoc County maintains PLSS corners, but no other control. We already have our tie sheets online. We would not want to be responsible for giving our information about other networks.
12.32	As long as this is kept up to date frequently
12.33	A12. I still wish that there were more defined categories for the PLSS monuments. Under other geodetic control and control networks would miscellaneous GPS readings of surveyed corners or lot pins be required? I am curious about the status of Non-PLSS monuments and locations as they are also helpful but to be honest I believe I have enough to work on as it is in regards to future data sets. It is a layer that I already have. Would the coordinates need to be provided in a specific Datum or version?
12.34	1- Should only require data maintained by the county. Villages, cities and towns might have some of this data (specifically control networks). 2- Use PLSS Finder for PLSS data. 3- Use Control Finder for geodetic control data. 4- Need data disclaimers.
12.35	We need assistance with this item; our county's firewall was changed when we acquired a new IT company and the State no longer has access to this layer. We would like alternative instructions on how we can deliver a copy of this layer to the state. We have said layer in our files and are willing to re-link the tie sheets or update the layer in order to deliver it to the state.
12.36	We don't have an objection to the concept, but do not anticipate having the capability for several years.

Private Sector/Company Located Within Wisconsin
| 12.37 | Agree with SCO comments again. Standardization, links to online tie sheets, and information regarding quality, time, and coordinate accuracy information should be required so the county data can be incorporated into PLSSFinder. |

Private Sector/Company Located Outside of Wisconsin
| 12.38 | the plss data should be compiled into a statewide plss cadnsdi standard format   the plss points should identify which were used as control |

Educational Institution
| 12.39 | This question should refer to Public Land Survey System corners, not monuments. Monuments are the physical objects in the ground. Corners refer to the data (including locations) recorded for these monuments (or even in cases where monuments do not exist). Given that PLSSFinder is the recognized point of access for county PLSS data according to the parcel initiative (Bench Mark #4), and given the fact the Wisconsin County Surveyors Association endorses PLSSFinder as a vehicle to provide information about the status of PLSS completion and maintenance in the state, efforts to collect PLSS corner data characteristics should be conducted with the following goals in mind: a) Standard data model and file formats to simplify aggregation of county datasets; b) Accuracy statements attached to coordinate values to improve integration of PLSS and parcel data; c) Hyperlinks to online tiesheets; d) Date stamps or other attributes to identify currency and changes over time; and e) Access to complete, county-wide data updated to reflect ongoing maintenance on the ground. These characteristics will ensure collected county data can be accurately and efficiently integrated for access in PLSSFinder (or other applications). |

Q13 - PARCEL MAPPING [DATA]

	%Count	
I see nothing problematic about this data layer description as it is written	73%	82
Comments/suggestions/changes you feel are needed to make the data layer description for Parcel Mapping satisfactory	41%	46

State Government
| 13.1 | Nothing problematic with the description of Parcel Mapping However we have several questions/comments: Easements: WisDOT suggests that easements be required as a feature of parcel mapping to help identify right-of-way. |
| 13.2 | Assessment rolls are completed by early December at the latest as part of sending out the current year's tax bills. I would like to see assessment/tax roll data updated by January 31 to provide time for assessors to update their information for that assessment year (if needed). Additional layers for special districts (ex. - TIDs, sanitary districts) is available on some, but not all GIS sites Hydrology/flood mapping would be helpful |

County or Local Government
13.3	March 31st should be stuffiest. However a county should not be penalized if the proper information is not relayed to them in a timely manner.
13.1	This appears to be a duplication of the Statewide Parcel Map initiative data. Tax roll data is not developed or maintained with WLIP retained fees or grants and changes daily.
13.2	Aren't those two mutually exclusive? The Parcel Geometries line has the tax roll data in yet, but the Assessment/Tax Roll has them separate.
13.3	Sometimes with staffing issues we can not have the up to date parcels completed by March 31st or

abnormal large amount of research that needs to be completed. We are trying to update the current parcels while incorporating current coordinates on the parcels essentially doubling the work.

13.4	I don't like the idea of have "survey acres" "GIS acres" and "assessed acres" I feel that is very confusing to the public. In my opinion "survey acres" should be the exact same as the "assessed acres" so why do you have to list all of them? Does the public even know the difference between "assessed acres" and "GIS acres" and why is there a difference for them? if the GIS acres are the best information the county has to accurately assess property why would you have two? Note - in our county GIS acres and the assessed acres are the same, so we would not have different acres for this information.
13.5	This is fine as long as WLIP funding continues to come to the data producers (counties) through grants, etc.
13.6	Parcel schema is well established from our collective work over the past few years. I'm interpreting this layer description to be the established schema.
13.7	The tax roll data for the previous calendar year will not match the start of the current year parcel geometry as we have explained many times over. However, data is being supplied which captures everything for the previous tax year with the geometry not representing parcel splits/etc made during the year.
13.8	Vilas County already provides access to the parcel geometries which are integrated with the Tax Roll Data as well as the Tax Bills. Integrated Tax/Parcel data are produced for download in provided in the County's native format. This data is produced 1 time per year for platbook production in the early first quarter. Any requests for data produced on a specific date, or data manipulated to the customer's requirements will be subject to customization fees. Links to additional resources are also provided on the County's mapping website.
13.9	This data was created with the county standards and uses in mind. It is almost back peddling to transfer this data to standards that do not comply with our county wide standards. As mentioned before our county tax payers and land information users prefer to come into the office to discuss their land issues and see paper maps. It
13.10	Ashland County's assistant to the property lister has 20% of her time designated for parcel mapping. The March 31st deadline might be difficult to achieve.
13.11	I'm not sure if all counties can have all map updates complete by March 31 each year.
13.12	I might quest ion the acquisition of past data assessment and tax roll information.
13.13	Would "Unidentified owner" parcels need to be resolved immediately or can they continue to be named as such until we get time and resources to basically do our own title searches on those parcels? Also, for Jackson County, the data will contain parcels without previous without previous year tax records because splits/combos are mapped as we go during the year even though the tax records may not change until the new tax year.
13.14	Based on the submittal from last year, there should be a focus on providing the year end snapshot of parcel that are recorded as of December 31st of a given year. This established the assessment roll and parcel for the next year. This would deal with some of the attribute requirements in the current parcel submission. It is also recommended that DOA have a better understanding of the workflow related to parcel mapping and collection of assessment data. As for the current parcel standard there are few outstanding issues. The data model has the Prefix field containing pre-directional (N, S, E) and a pre-type (CTH, STH, USH), and the use of CTH for County Highway). It is unclear how this follows the FGDC street name standard and considered a good database design standard since it is inappropriate to merge these different elements.
13.15	I would propose the XML tax roll files required by DOA should satisfy the tax roll data requirement for the parcels.
13.16	Data users are usually looking for the most up to date parcel boundary, owner names and mailing addresses. The downloadable parcel data should be updated more often to make it suitable for most projects. This could also be part of a survey on users needs about how current the data should be.
13.17	It is unclear how question being ask would tie in to refining the standards for the parcel data. Based on the submittal from last year, there should be a focus on providing the year end snapshot of parcel that are recorded as of December 31st of a given year. This established the assessment roll and parcel for the next year. This would deal with some of the attribute requirements in the current parcel submission. It is also recommended that DOA have a better understanding of the workflow related to parcel mapping and collection of assessment data. There is also a difference between cadastral parcel and tax parcels. There should also be more discussion of Assessment/Tax Roll Data coming from the Department of Revenue and joined to parcel geometry provided by the counties. As for the current parcel standard there are few outstanding issues. The data model has the Prefix field containing pre-directional (N, S, E) and a pre-type (CTH, STH, USH), and the use of CTH for County Highway). It is unclear how this follows the FGDC street name standard and considered a good database design standard since it is inappropriate to merge these different elements. I would suggest, following the FGDC standards and dividing the grouping into two separate fields. One for the PREFIX that only contains the directional (N, S, E, W) and one called PRETYPE that contains the various county, state and federal designation (CTH, STH, USH, I). With that change the field STREETTYPE should be changed to POSTTYPE to better reflect the various elements of the street name. I would also recommend adding a pre-modifier and post-modifier as identified in the FGDC

standard. All attributes have to be spelled out in mixed case.

PREMODIFIER - Street Name Pre Modifier Old North Main Street The street name pre-modifier is rarely needed and its use should be minimized.

PREDIR - Street Name Pre Directional North Main Street Standard USPS English abbreviations are East, West, South, North, Northeast, Southeast, Southwest, Northwest Standard USPS abbreviations are E, W, S, N, NE, SE, SW, NW

PRETYPE - Street Name Pre Type County Highway JJ A street may have either a pre-type or a post-type, or neither, but not both. Standard is County Highway, State Highway, US Highway, Interstate. Do not merge with PREDIR.

STREETNAME – Primary Street Name Main Street POSTTYPE - Street Name Post Type N Main Street A street may have either a pre-type or a post-type, or neither, but not both. Standard USPS street type standards There should not be a separate state domain that generalizes or alters the official POSTTYPE.

POSTDIR - Street Name Post Directional Main Street Northwest Standard USPS English abbreviations are East, West, South, North, Northeast, Southeast, Southwest, Northwest Standard USPS abbreviations are E, W, S, N, NE, SE, SW, NW

POSTMODIFIER - Street Name Post Modifier W Beltline Road Frontage Road The street name pre-modifier is rarely needed and its use should be minimized. If the PRE or POST attributes need an abbreviation that should be handled be separate abbreviation attributes or a related table that follow Standard USPS abbreviations. Access and distribution of these dataset points to the need for the State to provide a Central Geospatial Data Repository.

13.18	We would need assurances that we would be compensated for changing our format to fit the county's and state's needs, as our current format was designed specifically for our needs. The county is not currently required to pass any funds for us to provide them the parcel data for the city, so we would need an agreement in place before that could take place. Our assessment information is also not currently associated with our parcel information, so we would need to do that as well.
13.19	A13. There will need to be ongoing discussions regarding the tax data attributes to be included with parcel data. Insuring that attributes for addresses and other data fields correspond with state and national standards should be a priority.
13.20	A13. Use more widely known terminology for Parcel Geometries, maybe parcel boundaries or property boundary? Tax year parcels or current parcels? Current Parcel Fabric is a mix of two tax years. Referring to Question 16, Is ROW included with parcels? Are Subdivision boundaries, Lots, etc. included as well?
13.21	Doesn't the statewide parcel layer fulfill this function? Why would we need to post this data separately?
13.22	There are always a few recorded parcels with title or description problems. Those problems may not be resolved prior to the March 31 deadline.
13.23	County is on tract to comply.
13.24	March 31 is a good date. However, a county which is unable to meet the deadline is failing due to problems in a lower unit of government. Language should be added to make sure that counties do not lose their retained fee, or grant funding due to problems in the lower unit of government.
13.25	Its possible that there may be problem areas that we are waiting for the property owners to resolve through recording documents.
13.26	This makes the states webpage obsolete within a day of the deadline since parcel geometries and assessment/tax roll data will be out of data. I think it is erroneous to post outdated data and a link should be given to each counties GIS page so people can get the most up to date information.
13.27	Defer to Treasure Office for timeline restraints.
13.28	A13. Any Parcel Mapping data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
13.29	All unidentified parcels may not be resolved.
13.30	Disclaimers that state "accuracy is not guaranteed / parcel boundaries shown on map do not substitute for an accurate field survey" should be included along with parcel mapping.
13.31	Our main problem in submitting parcels is getting data from the two cities where we do not provide real property listing functions.
13.32	The only issues I have seen is the difficultly being able to get a clean snapshot of both parcel geometries and assessment/tax roll data. There are occasionally parcel records which were changed in the previous year which are delayed in getting processed. If the current year data entry has already started it is difficult to get a perfectly clean snapshot of both datasets with the late changes. These are isolated incidents and would not have a large scale impact.
13.33	A13. Just as long as the end user is aware of the vintage of the parcel data. (metadata)
13.34	A13. Will the additional versions be requested in the future or will it only be the annual parcel geometry at that snapshot in time? It would perhaps be better to define the snapshot in time that the data represents for instance the data at the start of the tax cycle. That data should represent January 1st, but it may not be

ready until later on. If you acquire data from us it should be for the same day for each and every one of us. If not you will have an uneven dataset. It might be Jan 1 for one county and Jan 20 for the next and Feb 22 for another when you put it together!

13.35   Encourage the DOR and RPL develop stronger standards for assessment roll to bring standardization across counties.

13.36   1- Should only require data maintained by the county. Villages, cities and towns might have some of this data. 2- Need data disclaimers.

13.37   This is the layer we spend most of our time updating; as most of the other layers in Pepin County see limited changes.

Private Sector/Company Located Within Wisconsin

13.38   This is fine as written, assuming the attributes for the parcel are not overly complex. I typically only use the linework, PIN, and potentially owner name/site address. Most other items are less typically needed in my personal line of work. If it is too complex to merge additional attributes, I think most GIS folks in a role similar to mine would be comfortable calling the assessors office to request additional information that could be tied to the PIN.

Private Sector/Company Located Outside of Wisconsin

13.39   sometimes having the subdivisions as a separate layer.

Educational Institution

13.40   Given that the Wisconsin statewide parcel map is intended to be aggregated on an annual basis for the foreseeable future, and that there is a standard for submitting data to the parcel project, it is recommended that any additional requests for parcel or tax data be provided in their native format. Providing this data in native form would prevent against duplicating submission efforts, help preserve some of the native granularity of jurisdictional datasets, and better satisfy the needs of archivists such as Robinson Map Library. However, if a statewide parcel map data submission is enough to satisfy this requirement of submitting parcel geometries and tax attributes then this comment can be disregarded.

Q14 - LIDAR AND OTHER ELEVATION DATA [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	62%	71
Comments/suggestions/changes you feel are needed to make the data layer description for LiDAR and Other Elevation Data satisfactory	49%	56

State Government

14.1   comments: Category Name: WisDOT agrees with the SCO suggestion to change this category to Elevation and cite the specific products, some of which would be LiDAR-derived products. Statewide LiDAR Layer: WisDOT would like improved knowledge of and efficient access to consistent county-wide level LiDAR data to be used for planning purposes at WisDOT. WisDOT would prefer consistent LiDAR quality across the state (uniform in accuracy and point density, and includes associated aerial imagery), or at the least reliable metadata associated to the data.

14.2   A14. I would specify/add breaklines, which are not always included in LIDAR datasets. I would also suggest specifying that the point cloud is classified and include a separate bare earth dataset (DEM) given that class of points is most commonly used. I suggest removing other types of elevation data. Given the advancement and pervasiveness of LIDAR technology, I do not see the usefulness of using any anything else for accurate elevation data.

14.3   Re-naming the layer so that the general public can understand the what the layer covers would be useful

County or Local Government

14.4   I differ to our LIO's response "should not be a required element."

14.5   Our LiDAR data was not developed using WLIP monies. Layer requirement should apply only to WLIP-funded data.

14.6   We need additional training on how to use this data and creating derivatives for all departments withing the county.

14.7   We would like to use strategic initiative grant funds for our LiDAR project update in 2020 and beyond. The lidar data formatted as a high-resolution DEM (such as what's available on WisconsinView for many counties) is a good start but people would like to see the full datasets available as well (LAS, etc).

14.8   LiDAR, other types of elevation data and their derivatives should be WLIP supported activities. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. Urban/rural mix, rate of change, etc.. vary greatly across the state making a one-size-fits-all difficult. I could support a minimum specification based on actual business cases and ROI, but counties who need an enhanced product should not be limited in their use of WLIP funds to acquire those enhanced products. There is not enough detail related to proposed specifications to comment further.

14.9	An investigation should be undertaken as to how to more economically produce derivative data from LiDAR such as contours, without the necessity of breaklines (see State of Minnesota program which produced 2' contour maps statewide without breaklines). Difficult to afford an 8-year cycle especially if .7 meter spacing is required. Rural counties don't change all that much and one size fits all doesn't work. Dodge County is currently in a 10-year update cycle with our next acquisition scheduled in 2017 in conjunction with high resolution ortho acquisition (6" pixel). We just received word of receipt of a USGS 3DEP grant to help us afford the .7 meter spacing product in 2017, without which we would be contracting for a 1 meter product.
14.10	Please clarify what "LiDAR" means (point cloud, contours, DEM, etc.)concerning open/available for download requirement. The raw point cloud or even the classified point cloud are large datasets and will get even bigger under the new standards due to increased point density. It would be much easier to meet a requirement to host the bare earth DEM, contours, and breaklines which are basically the standard derivative products produced from the points. And then if consumers want the points, they can send a hard drive to the County. The only other suggestion I have with this topic concerns the experience negotiating the sale of deliverables with the USGS, but more specifically with the project specification changes (projection, GPS Week Time vs. GPS Absolute Time, classification coding, EPSG codes, etc.). The 2013 project was flown and data created to the specifications of that time. However, those specifications were no longer valid during the agency's QA/QC process (2014-2016), and the data would not be accepted because it would not work due to the agency's aging software limitations and changes to the attribution requirements which were not contained in the specifications used at the time of the flight. So the Vilas LiDAR data is incompatible with the agency's Standard Operating Procedures (SOP), and may never be available in 3DEP because it is a low priority area and the agency has limited funding. Vilas County already provides access to contours (5', 10', 25') through the County's mapping website. However, the various LiDAR deliverable datasets are not available for download for the following reasons: 1. Storage problems 2. Download directly from the County's website infrastructure problems 3. Refer full LiDAR data requests to USGS When the data becomes available for download, any requests for contours (aka LiDAR data) directly from the office staff, or data manipulated to the customer's requirements will be subject to customization fees.
14.11	Suggest adding more specs to bullet list after a minimum base LiDAR product set has been finalized.
14.12	There are already standards applied to that data when it is acquired. There should not be any more requirements.
14.13	As one of the deliverables is contours, maybe there should be that term (lidar contours) used as a layer.
14.14	I question LIDAR update requirements especi ally in northern counties
14.15	This section should be referred to as Terrain Data, while LiDAR is the technology that is used to acquire the data. The actual data is a Classified/Non-Classified LAS point file and the derivative products are a raster based Digital Terrain Model (DTM) or a vector dataset like contours.
14.16	Clarify the intended end user and purpose (regulatory vs non-regulatory). Vast difference in cost and accuracy requirements based on a homeowner topographic map (non-regulatory) and FEMA floodplain analysis for flood studies (regulatory).
14.17	There should be little more specificity on what is meant by LIDAR data and what the minimum data products would be to meet this requirement. Our last LIDAR project in 2012 generated 615Gb of data in 10,481 files. Not sure it all needs to be downloadable? Again user needs study.
14.18	The questions being asked are more cosmetic and not related data design or standards. The base data standards are referred in section 3.3, Question 28 that would provide standard for terrain data acquisition. Will a classified LAS file be a requirement? If so, what is the standard for classification? Will the derivative DTM be for Bare-Earth and/or First-Return? If contour lines are required, what is the minimum contour intervals? This section should be referred to as Terrain Data, while LiDAR is the technology that is used to acquire the data. The actual data is a Classified/Non-Classified LAS point file and the derivative products are a raster based Digital Terrain Model (DTM) or a vector dataset like contours. The acquisition of Terrain Data one of the highest priced projects a county can undertake. If it is required that counties need to update their terrain data every 8 years, will there be sufficient funding in the WLIP to assist counties with this requirement, balance against all the other requirements outline in the survey? This will be of particular challenge for those base budget counties that have a large geography area. Having this requirement have the potential to diverted resources away from the development of other foundational elements. Access and distribution of these dataset points to the need for the State to provide a Central Geospatial Data Repository.
14.19	- Downloading of the full county dataset would be problematic from a resources standpoint, therefore it is recommended that the users are given access to the data in smaller defined areas such as a PLSS section. Therefore, county's would have the ability to provide the County dataset by PLSS section or a smaller area to reduce the amount of resources need and reduce download times.
14.20	We don't define these, so it is not applicable for the city.
14.21	On WisconsinView – there is a link to "LiDAR data" which actually goes to DEMs generated from LiDAR. That is a derivative product. There needs to be a clear explanation on what is the expected deliverable. Point Clouds, Bare Earth, Classified, etc. With Terabytes per county of data, this is going to be a massive undertaking both at the state and local level. Drone captures need to be taken into consideration as well.

Point density with drone flights is a lot more concentrated than with countywide flights.

14.22	A14. We would expand the Lidar Derivatives to include contours, DEM ground and Point Cloud. These datasets might not be able to download easily because of the size.
14.23	Price County does not currently have lidar so I cannot comment regarding our use.
14.24	Add Sublayers - Raster DEM, Unclassified and Classified LAS in addition to Contour layers should be made available if they exist. See my other comments about LiDAR flight requirements below...
14.25	The file size of the LiDAR data could present problems for transferring the data. I would recommend limiting it to elevation derivatives, it contours, DEMs and other small data sets. Refer users to USGS for acquisition of the full LiDAR dataset, this is a dataset that may to be charged for as it takes time to process a large dataset such as this.
14.26	This element should be fundable. But, it should not be required.
14.27	More detail on LiDAR is needed.
14.28	This data layer is yet to be defined. We would need more details and specifications. DOA should form a work group to determine Lidar specifications.
14.29	This is too vague of a definition. Also for some counties Lidar is not a useful layer. Rural counties with little to no development do not benefit at all from having LIDAR data.
14.30	I believe the LiDAR is important to be out there for the public but trying to make a data set that large available in multiple different layers and options would require way too much addition work by staff that is already swamped with work due to budget cuts. If all the state is asking for is this information being available in its original format then I don't see too much of an issue.
14.31	Storage Storage Storage
14.32	This data is public, but maybe large rasters, las/laz datasets don't need to be made downloadable because of the file-size considerations? I don't know the law.
14.33	LIDAR on a full County scale does not make sense for us at this time. We are exploring the use of LIDAR via UAV for specific projects within the County so that it could be obtained where needed and when needed as to be most advantageous to the County.
14.34	Not familiar enough with LiDAR to comment on suggestions at this time.
14.35	A14. Any LiDAR data and LiDAR derivatives acquired through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
14.36	Do not currently have LiDAR data - will be getting it shortly. Would be concerned about technical difficulties of sharing such a large data set.
14.37	Just a comment: that LiDAR data/files can be quite large at times.
14.38	LiDAR and its derivatives are very large in size. Handling this data and making it downloadable will be a big problem for many counties.
14.39	LiDAR, LiDAR derivatives, and/or other types of elevation data are, as you know, quite expensive. Many counties lack the licensing, staff, and/or experience working with these types of data. To require this information from counties potentially unable to create/use it themselves means that contract costs increase while the benefits from this data acquisition do not. In an effort to maximize the return on a county's investment, additional funding for training or state-handled data processing would help counties meet the requirements listed above.
14.40	More descriptive on Layer Info, Specifications and Uses
14.41	This is too broad, DOA should explain what is meant by 'derivatives' as this could entail a lot of different layers. What other types of elevation data would be expected?
14.42	Like zoning data it will be difficult to standardize LiDAR products across the state. Clarifying the products with their metadata seems reasonable.
14.43	I would suggest spelling out LiDAR Derivatives. Do you mean a DEM, DTM, Canopy height model? Also, when you say LiDAR do you mean just .LAS files or a processed DEM?
14.44	County Bandwidth may be problematic.
14.45	A14. If the state did not fund our LiDAR data and its derivatives, are we still obligated to provide it open source?
14.46	A14.Expand the definitions and state the file types being requested. Do I need to provide the LIDAR derived data in .shp or .cad or both? Classified or bare earth or both? Etc. etc.
14.47	1- Should only require data maintained by the county. Villages, cities and towns might have some of this data. 2- Need data disclaimers.
14.48	We would probably need assistance from third party resources to determine if our layers are appropriately named to benefit end-users.
14.49	We have no concern other than if there was a requirement for it to be available for online download, due to the file size.

Federal Government

14.50 Think outside the box for once! Specify the output...not the sensor. Specify: 1) surface canopy/building layer, ground elevation, forest structure, and subsurface water (bathymetry elevation! Sensor wise, this can be done optically, Lidar and radar! Radar for example, one can map water level changes in wetlands like a topo map to a couple inches! So it is possible to map water level changes in part instead of relying on point stream gauges. And what about mapping snow and ice surfaces...still has not been done operationally except for the Great Lakes

Private Sector/Company Located Within Wisconsin

14.51 Agree with SCO again, especially about citing specific elevation products.

Private Sector/Company Located Outside of Wisconsin

14.52 LiDAR data and derivatives can consist of a vary large amount of data. The ability to download this information can be complicated. It cause the state to spend a sizable about of money on servers and access points to make this possible.

Educational Institution

14.53 We suggest naming this category "Elevations" since LiDAR is one of several different collection technologies that can be used to generate elevations. In addition, it would be useful to cite specific elevation products such as: • Bare-Earth Digital Elevation Model (DEM) • Bare-Earth Elevation Contours • LiDAR point clouds • Digital Surface Model (DSM) • Bare-Earth Digital Terrain Model (DTM) Useful reference: http://www.mngeo.state.mn.us/committee/elevation/research_education/MnLiDARGlossary.pdf

Q15 - ORTHOIMAGERY [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	**72**%	81
Comments/suggestions/changes you feel are needed to make the data layer description for Orthoimagery satisfactory	38%	43

State Government

15.1 comments: Category Name: A WisDOT suggests naming this category "Aerial Imagery" and adding Vertical, Oblique, Georeferenced, Orthoimagery, and Mosaics as categories. Also, there is likely the need to categorize aerial video (e.g., from UAS/UAV), as opposed to still (to which this category primarily refers). Also please refer to the SAGIC Issue Brief – "WisDOT Needs for Aerial Imagery"

15.1 A15. This data is critical. I suggest removing Other Types of Imagery data. If the imagery is not orthorectified, I'm not sure it would be useful for analysis.

15.2 Perhaps using the term aerials instead of orthoimagery would be helpful.

County or Local Government

15.3 I differ to our LIO's response "should not be a required element."

15.4 Most of the county's orthoimagery was funded without WLIP monies. Layer requirement should apply only to WLIP-funded data.

15.5 No problem with this as long as it is funded through grants.

15.6 We would like to use strategic initiative grant funds for orthoimagery production.

15.7 Ortho, historic and other types of imagery should be WLIP supported activities. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. Urban/rural mix, rate of change, etc.. vary greatly across the state making a one-size-fits-all difficult. I could support a minimum specification based on actual business cases and ROI, but counties who need an enhanced product should not be limited in their use of WLIP funds to acquire those enhanced products. Oblique imagery is something many counties find useful, but has been hardly discussed when forming the WLIP plan. It should be noted that oblique imagery is often licensed and that license model should not restrict to the use of WLIP funding. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.

15.8 Dodge County will continue to acquire 4-band stacked as received in 2012 and make the product available to anyone requesting it. Having a 3-year update cycle would be great but not practical for rural counties where the landscape doesn't change as quickly as it would in a more urban county.

15.9 Vilas County already provides access to the orthoimagery for 2015, 2010, and 2005 through the County' mapping website. However, the imagery is not available for download at this time for the following reasons: 1. Storage problems 2. Download directly from the County's website problems Any requests for orthoimagery data directly from the office staff, or data manipulated to the customer's requirements will be subject to customization fees. Historic imagery is available on so many websites that it seems redundant to offer it on the County's site.

15.10	Suggest adding more specs to bullet list after a minimum base aerial imagery product set has been finalized.
15.11	There are already standards applied to that data when it is acquired. There should not be any more requirements.
15.12	I still believe there are GIS users (general public) who don't know what the term "orthoimagery" means. Maybe using the term "aerials" would be better.
15.13	Historic Orthoimagery may be difficult to obtain. I would suggest going from day forward with historical data if required. Oblique imagery as stated has limited licenses and our county would have to evaluate the situation before agreeing to this option. I question the update requirements on Orthoimagery.
15.14	These items would be a priority especially in regards to Next Generation 911 and other public safety requirements. There needs to be assessment of what attributes are required for address points and street centerlines, used by 911 systems. Attributes should be divided into discrete elements that can be concatenated to meet system requirements.Is the questions what imagery should be considered or is this a question on the development of standards for imagery
15.15	Some more specifics would be helpful on how many years and what format would be the minimum requirement to be downloadable. I also think oblique imagery should be part of this discussion. Counties should be able to buy oblique imagery with retained fees or grants if those meet more of their needs.
15.16	The questions being asked are more cosmetic and not related data design or standards. Standards are referred in section 3.2, Question 27. Is the questions what imagery should be considered or is this a question on the development of standards for imagery? Standards are referred in section 3.2, Question 27.
15.17	- Orthoimagery formats should be defined so that users will be able to download a specific file type. (i.e. Mr SID, TIFF, JPEG, etc)
15.18	Both the city and county use the same imagery at the moment, but that might not always be the case in the future, based on funding levels.
15.19	This, along with LiDAR, is the hardest data to store and distribute, there needs to be a clear understanding of what deliverable should be expected. The difference between Orthoimagery that has been supplied to the county in a digital format ready for GIS application and Orthoimagery that has been scanned from hard copy and rubber sheeted with no assumed accuracy needs to be clearly defined.
15.20	The file size of imagery could present problems for transferring the data. Historic imagery is useful but again the file size could be an issue. May need funding to accomplish.
15.21	This element should be fundable. But, it should not be required.
15.22	This data layer is yet to be defined. We would need more details and specifications. DOA should form a work group to determine Orthoimagery specifications.
15.23	Add a layer for oblique imagery. I think this is an extremely valuable tool that the state needs to look at as a required image. If not required it should be highly pushed to get counties to get these. There are often times many things that can be seen with these images that you cant see on regular orthos.
15.24	This data is public, but maybe large rasters, las/laz datasets don't need to be made downloadable because of the file-size considerations? I don't know the law.
15.25	Historic Orthoimagery - All Historic Orthoimagery, only WLIA funded Orthoimagery??
15.26	A15. Any imagery data acquired through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
15.27	Just a comment: that Orthoimagery data/files can be quite large at times.
15.28	I would like to see Oblique images supported for WLIP funding. Our Emergency Government uses them constantly and so does the Zoning Department. They can be very costly to acquire without any type of funding mechanism.
15.29	Aerial imagery costs are directly correlated to the total area being captured at a given resolution. Currently those counties that have less area to capture are afforded the benefit of higher resolution imagery at, or potentially below, the cost of lower resolution imagery being captured in larger counties. While the argument can be made that higher density counties such as Milwaukee and Kenosha counties require high resolution orthoimagery, largely rural counties would benefit from higher resolution imagery as well. Has there been any discussion on imagery collection happening at a statewide level? Is it possible to move the burden of orthoimagery from the counties to the State?
15.30	What is "other types of imagery"? Please elaborate. Does non-digital historic orthoimagery need to be scanned and rectified in order to meet this requirement?
15.31	What level of resolution (1 meter vs 1 centimeter) is intended? Does it matter? These need a better definition.
15.32	We have given our orthos away at no charge for years, so we have no problems with the "no restrictive licenses and no fees" requirement when using WLIP funds for orthos; however, we are planning on collecting oblique images on our next flight. They will be available for the public to view via our land records website, but they cannot be redistributed because of the proprietary software that is required to view them. We would like to see an exemption from the "no restrictive licenses and no fees" requirement for oblique imagery.

15.33	County Bandwidth may be problematic.
15.34	A15.If the state did not fund our orthoimagery and its derivatives are we required to provide these data sets as open source?
15.35	A15.This seems to conflict with Q7. If dated raster information is not required why is historical Orthoimagery required? I don't have an issue with sharing it myself as I believe that imagery is some of the most useful to people.
15.36	An additional oblique angle category may be nice here
15.37	1- Should only require data maintained by the county. Villages, cities and towns might have some of this data. 2- Need data disclaimers.
15.38	We may only have select orthoimagery layers available (at least one per decade as available); we have some concerns about storage capacity and will make accommodations to make additional data available. For example, we may store historical layers on the FTP server instead of on a WFS option or third party hosting option.

Federal Government

15.39	Again think outside the box! The world is not flat so why insist on ortho imagery. The State should have a program of season 6" or better STEREO imagery taken spring, summer and fall at least in some cycle better than 5 years. Don't forget about oblique imagery like Pictometry. Or Daily imagery like Planet. Or Multi-spectral aerial imagery from an airborne data systems camera system to map things like invasive species during time sensitive events! Historic ortho imagery is needed but if one goes to the effort of scanning images, scan ALL of THEM since they are in STEREO and 3D models can be reconstructed using photogrammetric software.

Private Sector/Company Located Within Wisconsin

15.40	Agree with SCO. Generalize to "Aerial Imagery" and include non-ortho imagery. Consider specifying UAS imagery. It may be valuable and useful, even without being orthorectified.

Educational Institution

15.41	We suggest naming this category "Aerial Imagery" since not all imagery is necessarily ortho-rectified. Sub-categories should include: • Orthoimagery • Oblique Imagery • Satellite Imagery It seems unnecessary to designate a category of imagery called "historic" since historic imagery merely refers to a date of acquisition. Acquisition dates are an important piece of metadata that applies to all forms of imagery.

Q16 - ADDRESS POINTS AND STREET CENTERLINES [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	**65**%	74
Comments/suggestions/changes you feel are needed to make the data layer description for Address Points and Street Centerlines satisfactory	44%	50

State Government

16.1	Nothing problematic with the description of Address Points and Street Centerlines. General Comments: Please note that Addresses will become a new these under the National Spatial Infrastructure. Address minimum content guidelines and schema have been developed as part of this effort. A beta version of the National Address Database (NAD) is available for participation by states to develop ELTs processes to load data into the NAD. Here is the minimum content standard for the NAD: https://www.fgdc.gov/organization/steering-committee/meeting-minutes/april-2016/nad-pilot-draft-minimum-content-standard-sc.pdf/view The last couple of years FHWA has made mention of address point data in conjunction with the Highway Performance Monitoring System (HPMS) submittal, but nothing has been required or mandated. Address Points – Accurate address points are critical to 911 centers and the state patrol so collaboration with our safety partners and their data specifications is paramount. From the highway program perspective, over the last couple of years the Federal Highway Administration (FHWA) has made mention of address point data in conjunction with the Highway Performance Monitoring System (HPMS) submittal (an essential roadway information annual reporting requirement for state transportation departments for all public roads), but nothing has been required or mandated. Street Centerlines – WisDOT prefers this layer to contain attributes and be structured under collaboration between local, regional, and state WLIP targeted agencies with their sister transportation / safety departments involved in transportation programming, asset management, operations, and safety (public works, transportation, law enforcement). The transportation and safety industries have data needs and spatial constructs that should be considered.
16.2	Critical data that can be collected via Wise-Decade.

County or Local Government

16.3	A bit of a concern regarding address points. Some concern with protecting our constituents. Should not be a requirement for funding.

16.4	Some data not currently available. May create staffing issues if this becomes a required dataset.
16.5	We will need to update our building footprints
16.6	County does not maintain "building footprints" so this should definitely be removed from the list.
16.7	Not aware of issues or needs for alterations with these layers and our data, as of now, that may change in the future
16.8	Address points and street centerlines should be WLIP supported activities. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. Address ranges should be a component or attribute of road centerlines and not separately called out. Address grid could be added as a separate, optional layer. County parks, open spaces and recreational data should not be lumped with address points and street centerlines. If this is desired data, it should be its own layer and not lumped together with what is otherwise transportation data. Building footprints is something I have been unable to make the ROI work every time I've tried. Although I agree it should be eligible for WLIP funding, we should not make this a required layer or counties could find themselves building layers in order to check all the boxes even and not because of a valid business case. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.
16.9	Building footprints are not a priority for Dodge County as orthos clearly show where buildings are. We don't have the resources to extract that feature and that feature layer would be very difficult to maintain. The other features listed are fine.
16.10	The majority of this list would be what I consider a county's critical infrastructure for many obvious reasons, and many are already available for download from the Vilas County's mapping website. However, just because a dataset is listed here, should not make it mandatory for a county to create/acquire. For instance, if there is a justified County business use for a dataset, such as building outlines, and sufficient resources to create/acquire, maintain and actually use the data, then this would be a legitimate investment for the County. Requiring a county to create/acquire a dataset which will not be updated nor used, does not make much business sense. In this case, the value of this data would decrease over time. Additionally, since building rooftops are used to create the County's polygon outline data, Vilas plans to update the building polygon data in the year following an orthoimagery flight. A point will be placed in each parcel polygon and flagged for review after the next ortho flight. Building footprint title is misleading as we do not have access to the building plans to accurately draw and place an actual building footprint on a parcel. This process would be very labor intensive as well unless builders, contractors, home owners were required to submit a digital construction plan (including building measurements and setbacks from parcel lines) to the County Zoning Dept. Standards need to be established for address and street datasets which will comply with USPS and NextGen911 integration. ROW's are implied in the parcel dataset, however, only the ROW's which have readily available documents to support these delineations appear in the parcel geometry. Further, the parcel mappers do not always see road creation/vacation documents.
16.11	This data was created with the county standards and uses in mind. It is used for 9-1-1 and complies with the 9-1-1 software we use and also county wide naming standards. It is hard to maintain two sets of standardized data for each of these layers. Data is also outdated as soon as it is delivered to the state.
16.12	Ashland County is working on adding address point data, street centerlines and other types of address information to our GIS data. We do not currently maintain building footprints.
16.13	Remove building footprints. The are always changing and are expensive to initially acquire.
16.14	Building foot print information is not accurate. I would eliminate this from the data layer request. Some information relating to trail and open space areas are for internal use only. Trail information accuracy is also an issue. We might have objections for the requirement of this data.
16.15	These items would be a priority especially in regards to Next Generation 911 and other public safety requirements. There needs to be assessment of what attributes are required for address points and street centerlines, used by 911 systems. Attributes should be divided into discrete elements that can be concatenated to meet system requirements.
16.16	Jefferson County does not have a building footprints layer. Does this mean that we and other counties would have to obtain building footprints or some of the other layers before we can spend retained fees or grants our county needs?
16.17	The questions being asked are more cosmetic and not related data design or standards. These items would be a priority especially in regards to Next Generation 911 and other public safety requirements. There needs to be assessment of what attributes are required for address points and street centerlines, used by 911 systems. Attributes should be divided into discrete elements that can be concatenated to meet system requirements. Address Points – will there be an attribute link to the street centerlines? Will address relate only to the structure or also include parcel situs, driveway access? What about other location address data, such as the DOT Mile Markers and local Highway Reference Markers. Street Centerlines – Address ranges would be and attribute in the street centerlines. The data should also need to be routable, topologically correct to include a directional (From-To, To-From, Both Way), overpasses and speed limits. Consideration needs to be made for Ramps and how will they be named (ex: West Beltline Highway EB Verona Road SB Off). Right of Ways – this is a dataset that should only be connected to parcel data. Trails – this is a very broad dataset that would need a great of work to determine specific requirements. The creation of Parks and Open Space, should be part of the Public Lands Dataset that is a derivative of the Parcel data and managed separately. Access and distribution of these dataset points to

the need for the State to provide a Central Geospatial Data Repository.

16.18 Similar problems to parcels in that we maintain our address points, centerlines, right of ways and trails separately than the county's system. We would need to define who is responsible for maintaining a compiled version.

16.19 A16. I believe that information required to build street networks e.g.one-way designations and speed limits should be included in items that could potentially be funded with WLIP funds.

16.20 It needs to be made clear that these layers are not required if they do not exist...for example Shawano County does not have building footprints. Being required to create them could adversely affect other areas. These layers should not be required to be created or updated before WLIP money is spent on other land records related projects not covered by this survey.

16.21 We will submit any data that we maintain, but the county does not presently have layers for building footprints, rights of way, or trails.

16.22 -Standardize the addressing between Next Gen 911 and postal standard before requesting a new format. -Maintenance of Building footprints require a lot of work for little return and are not of sufficient accuracy to use for code enforcement, so other than a graphic may not be worth the expense. -I assume you are asking about public road right-of-ways which could be a problem. Many roads do not have recorded or filed documents and would be a huge undertaking to confirm each right-of-way particularly town roads where records have been destroyed or lost. The County does not maintain a separate R/W database; R/W's are implied with the parcel mapping. -Trails need to be defined as only being public but there are so many different types of trails this could also be a huge undertaking. Maybe limit it to publicly funded trails. May need funding to accomplish.

16.23 With the possible exception of address points, this element should be fundable. But, it should not be required.

16.24 There can be issues with the ROW data, there are many instances where ROW vacations are not taken during parcel changes. Is the Address Point data considered the same as the situs point?

16.25 We would need more details and specifications. We need a specific data structure proposal in order to provide detailed feedback. We may or may not maintain some of these layers such as trails, open space, recreation data, etc.

16.26 Douglas County does not have building footprints and I don't foresee us getting those anytime soon so it would hard for us to give the state those if they were made required.

16.27 A16 The only issue I would have here is currently Ozaukee County does not have a right-of-way for all roads in the County. Some parcel data has road right of way but there are areas in the county where the parcel boundary goes to the road centerline and therefore we do not have a right of way boundary. We have found it difficult to find documented proof of the width of the right of way in some areas. Accuracy would be questionable.

16.28 Maybe just uniformly have rights-of-way datasets kept with parcels (as subset), unless we are talking about a "width" attribute in the street centerlines? Two locations could create confusion.

16.29 Building Foots prints are outdated and not consistent with new ortho. Trails - This information is other department/organization data created without any WLIP funds - CAUTION must be used requiring any and all information. Please remember WLIA funds may not covering all associated cost for such an extensive task. Thus, if this programs becomes to involved a County may opt out of the WLIA Grant program.

16.30 Address point data: how should we define this data set? -centroid of parcel? -driveway cut? -structure? Should we consider a subset of categories dealing with these interpretations for an address point?

16.31 A16. Any address or street centerline data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".

16.32 Would be able to provide datasets and attributes that are being maintained by the county

16.33 A Rights of Way layer may be an impossibility as a lot of roads do not have anything recorded specifying ROW by fee. Also, Building Footprints is an added expense with the purchase of LiDAR. Currently, La Crosse County does not have Building Footprints but will be acquiring them with our LiDAR purchase in 2017.

16.34 The county doesn't have a need for any of this info. The county does not maintain or require building footprints and trail descriptions. It would take extensive/expensive research to find and map the right of ways.

16.35 While these data would provide vast benefits to all aspects of planning/development, and asset management, some counties are so far behind on other required data sets that focusing on building footprints is a long, long way off. Simply digitizing data such as section corners is chewing up a large portion of my available time. Unstandardized/incomplete/undecipherable data entry from past GIS work has been causing headaches, delays, and troubles when simply trying to meet the deadlines of current benchmarks. Simply put, budgetary restrictions compounded with limited staff has created a bottleneck in data development that will not soon be cleared.

16.36 Some address information is not public per Act 356, we must be careful not to share victim related addresses.

16.37	Need to better describe what information is expected in these layers. Trails/Parks don't seem to fit in this category.	
16.38	Point data may be considered to include driveway access points and other address info could include driveway lines	
16.39	The data layer description is fine as written. Manitowoc County only has building footprints in the civil towns and they were created from our LiDAR, so they are not the best quality. We do not have a street rights-of-way file.	
16.40	Providing more details about the layers schema would be helpful. The internal business needs for dispatch systems can be very specific. The schema will be important to identifying the potential technical complications.	
16.41	remove building footprint layer, people can see buildings on the aerial	
16.42	A16.I don't have building footprints and it will take some time to derive those it would probably need to be hired out. What are the specs? I need specs? Address point data same thing we have it but I would like to know the specs being determined as I am currently updating some of that information spatially as well as attributes for multiple uses. Right of way would be a tough one that I wouldn't trust to be hired out of house. People don't understand how to read that data properly. I would like to compile that so it is proper. You elude to it being maintained with parcels. I will tell you there is a vast difference in how some counties handle road right of way parcels. Easements are often treated incorrectly as purchases. You need to educate on this topic if you want to get consistent results and even then you will get a lot of resistance. If you collected a right of way boundary line that would be more consistent than the polygon route. If you go with parcel polygons the ownership of those parcels will be a point of contention. Right of way location easy who owns the fee title interest is tougher. Right of way would be very useful but also very contentious. I would lower the priority of this one on that basis alone. It will cause fights and that will slow us down. If there is anything I write that is perhaps the strongest opinion I would have. Please let us tackle everything else first!	
16.43	1- Should only require data maintained by the county. Villages, cities and towns might have some of this data. 2- Need data disclaimers.	
16.44	In Pepin County we haven't developed a building footprint layer, nor foresee doing so in the near future. Due to the rural nature of our county, it doesn't seem practical in the unincorporated areas. We would also like to have guidance on attributes and standards applied to these layers to ensure that these layers are in a format that is recognized by the state as being acceptable. We simply would like to make sure we are providing high quality data with our WLIP grant funds, rather than simply having layers to meet state mandates.	
16.45	Our concerns are: 1. Some of these data sets include sensitive or private information that would need to be redacted. 2. We would oppose a requirement that these layers must be created as opposed to providing what already exists. The primary reason is that we may not have any reason to create such layers and to do so in case someone may want them would be costly.	

Federal Government
16.46   Add USNG data!

Private Sector/Company Located Within Wisconsin
16.47   Right-of-way should be a stand alone layer. Nice to use just ROW instead of all parcels.

Private Sector/Company Located Outside of Wisconsin
16.48   identifying the residential addresses are really important for census

Educational Institution
16.49   The request of each of these types of geospatial data appears to be appropriate. Note that "address ranges" are conventionally stored as a series of fields within a routable street centerline or road network dataset. With this convention in mind, address ranges may be most properly requested as an aspect included in the requested street centerline dataset (either as an integrated field or a table joinable to the street centerlines).

Q17 - LAND USE [DATA]

	%Count	
I see nothing problematic about this data layer description as it is written	**68**%	77
Comments/suggestions/changes you feel are needed to make the data layer description for Land Use satisfactory	43%	49

State Government
17.1   Nothing problematic with the description of Land Use

17.2   data that can be collected via Wise-Decade.

County or Local Government

17.3	Should be fundable but not mandated.
17.4	Some data is not currently available. May create staffing issues if this becomes a required dataset.
17.5	There would have to be some data format standardization across municipal & county lines with the land use coding in order to make this useful from a statewide perspective.
17.6	We don't see anything of issue with these data but the county does not have both these layers mapped at this time.
17.7	Current and future land use should be WLIP supported activities. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. Land Use (current and future) is currently an RPC supported activity. The layer is complete, but not WLIP funded. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.
17.8	Maintained as part of our County's Comprehensive Plan and the Current land use is updated as changes are requested and approved.
17.9	Towns control land use. County maintains the data.
17.10	Additional specs need to be added. For Vernon County - Future Land Use - may be an institutional problem because the current/foreseeable County Board has not demonstrated a collective desire to look at/plan for future land use (e.g. went through Comp Planning process twice over about a 5 year period, and took no action both times because of fears and misconceptions of a plans "authority" and the general negative perception of County General Zoning).
17.11	Ashland County does not currently maintain land use data as part of our GIS.
17.12	Show only current land use. Zoning controls future land use.
17.13	Current land use as identified by an assessor could be entirely different that land use as described by zoning. Future land use would be in zoning purview. I would not rely on zoning data as there is no standard and the assessment use is at times questionable. I would avoid this data layer as a requirement.
17.14	These items would be of low priority and could be a priority in the future based projected needs. Land use data is generally developed following an aerial imagery project. Most counties have a requirement to produce a land use inventory following the 10 year US Census. Future Land Use is something that is developed at the local level and is an element of the comprehensive plan. Much of this data is a static element and may only exist as an image, not reproducible as a vector data. Future Land Use is also very challenging to maintain.
17.15	Jefferson County doesn't maintain current land use or future land use for cities and villages.
17.16	The questions being asked are more cosmetic and not related data design or standards. These items would be of low priority and could be a priority in the future based projected needs. Land use data is generally developed following an aerial imagery project. Most counties have a requirement to produce a land use inventory following the 10 year US Census. What are the suggest standards for land use data development and attribution? Future Land Use is something that is developed at the local level and is an element of the comprehensive plan. Much of this data is a static element and may only exist as an image, not reproducible as a vector data. Future Land Use is also very challenging to maintain.
17.17	Again, we would need to come to an agreement with the county or state on how this data would be transferred to them for Janesville-specific information.
17.18	These should not be spoken of as one layer. These are 2 distinct layers that represent two different things. One captures a moment in time and the other a desired outcome for the future. Also, Current Land Use would need to be defined. How current is it? How is it captured? Is it updated dynamically as the changes happen or periodically when there is new aerial imagery/LiDAR. Is there a classification scheme that needs to be followed? Future Land Use in many counties is not controlled by the county, but by local municipalities. While the county does have a copy of most of the land use, it is not the administrator of the land use. For both layers, is this requirement going to expand eventually to be like the parcel data where the counties are responsible for collecting and distributing data from incorporated municipalities that aren't covered by the county plan?
17.19	A17. Current and Future Land Use can be provided, but will be different for each county. Without the proper metadata and associated plan, these layers will have little context and will be difficult to understand.
17.20	Price County does not have a comprehensive plan so future land use would be difficult to determine.
17.21	It needs to be made clear that these layers are not required if they do not exist...also how current is current? Our current land use layer was created in 2000 and spot checked/edited during comprehensive planning (2010) but it is far from current...
17.22	Need to define land use derived from assessment classifications or a land use inventory per planning agencies. Future land use could be an issue gathering data since it is driven by each town or city. May need funding to accomplish.
17.23	This element should be fundable. But, it should not be required.
17.24	We do not maintain Current Land Use as a GIS layer.

17.25	Current land use is given in the parcel data as assessment classes. Why does there need to be another layer?
17.26	We don't have land use data that is maintained by Douglas County.
17.27	We do not maintain a current land use inventory but rather past and future land use plans.
17.28	No data for the County
17.29	For future data, should we change the name to reflect where it arose from? For example, should we call it the 2030 plan or the 2050 plan?
17.30	A17. Any land use data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
17.31	Would be able to provide datasets and attributes that are being maintained by the county
17.32	Some counties may not have both current and future land use data available.
17.33	Again the county does not have access to this info or a need for it. should be removed.
17.34	17 of our 33 townships are partially or completely unzoned. Future land use data, as outlined in the county's comprehensive plan (2009) have gone without updates since its creation. Before (re)creating requirements for this dataset, I would recommend looking at the requirements of Wis. Stat. § 66 to ensure contradictory/redundant criteria are avoided.
17.35	Clarification on what constitutes Current Land Use. Is 5 year old land use data considered current?
17.36	There needs to be a currentness factor when it comes to current land use. In some places current land use is maintained on an increment to match air photo flights.
17.37	The data layer description is fine as written. Manitowoc County does not have a digital Future Land Use file.
17.38	Is the land use and future land use standardized? I ask because it can vary greatly under comprehensive planning what each category and items might be. How granulated does the data need to be?
17.39	A17. There needs to be discussion on this one. There are many aspects to this land use data. A greater percentage of this type of data is driven at a more local level than the County. (Town planning commissions for example.) If we need to collaborate with each one of these groups it becomes a staffing and time issue. The state grants provided are greatly helpful, but there are only so many staff hours in a year.
17.40	remove these completely - these will never be current and up to date unless each muni has to provide this info themselves
17.41	1- Should only require data maintained by the county. Villages, cities and towns might have their own current/future land use. 2- Need data disclaimers.
17.42	Current Land Use layers are derived from the tax parcel data; the towns do not inform the county of their future land use plans which is a problem. The Comprehensive Planning maps layers for current use were based on the tax codes at the time local plans were created; some of these plans are 10 years old so the current use may have changed significantly. We have no means of collecting from the towns their future land use plans, especially from the municipalities who alter their maps through private companies without informing the county.
17.43	Unless defined, the descriptive term "land use" is subjective, so you will not be able to compare one jurisdiction's data with another. The county currently does not have a land use layer as it has no use for one. What is more relevant is the zoning of property because, within the zoning regulations, the allowed uses are outlined.

Federal Government

| 17.44 | Future is a guess based on what? Try focusing on 1m rez Land Use...Not just Land Cover |

Q18 - ZONING [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	**66**%	75
Comments/suggestions/changes you feel are needed to make the data layer description for Zoning satisfactory	46%	53

State Government

| 18.1 | Nothing problematic with the description of Zoning, except for comment below. General Comment: We have a comment in regard to the mention of Airport Protection under Zoning (question 18). The description for this data layer was not provided in the survey, so we would like to have this feature defined further or be renamed to be more specific as they move forward into the next phase. The term "Airport Protection" is fairly vague and could describe several layers of airport information or just one, so we suggest DOA be more specific in their definition and description. |
| 18.2 | data that can be collected via Wise-Decade. |

County or Local Government

18.3 Although the county can have standardized zoning the property does not own the land. Suggestions can be done but zoning should be maintained by the municipalities and should be funded.

18.4 This appears to be a duplication of the Statewide Parcel Map initiative data.

18.5 We do not map some of these layers but can be sorted out of the data. Farmland Preservation or easements or restrictions are recorded in the ROD office and not documented directly i a field in GIS.

18.6 General zoning is maintained by municipal governments in Brown and some other counties. At the county level, general zoning is not always available to us and surely not in a standardized format with consistent zoning classification types. Please continue to accommodate our situation.

18.7 Zoning should be a WLIP supported activity. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. Like Parcels, Zoning is interpreted to mean the established guidelines associated with Act 20. If that is the intent, then no problem.' It is important to note that the regulatory authority is not consistent from county to county. Therefore you should expect differences in what data counties are able to provide. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.

18.8 all of the specs should include the statement "if maintained by the county"

18.9 Zoning does NOT follow parcel lines so this is very problematic. Many parcels have multiple zoning districts within them. Only 12 of Dodge County's 24 towns are under county zoning although we have shoreland jurisdiction countywide. Links to towns having town zoning and to municipal zoning maps are available on the Dodge County website.

18.10 Standardized zoning codes to create consistency across the state. In Vilas County there are significant differences between municipal and county zoning codes. The City of Eagle River has 11 zoning codes and the County has 15 which generally do not overlap. Some Towns have their own zoning rules which are much more restrictive than the County's. VC is researching 3D airport height zoning mapping. Vilas maintains countywide zoning geometries. VC Zoning information is available on the interactive website as well as the Zoning Department website. VC has very little land which is appropriate for farming. However, the Land & Water Conservation Dept. works with farmland preservation planning.

18.11 In Vernon County, and I suspect a few others, it may be a challenge to get updated municipal zoning information provided to the County on a continual/reliable basis.

18.12 Ashland County does not maintain the zoning data as part of our GIS.

18.13 We don't have airport protection at this time but will be working towards acquiring it. (DH)

18.14 As stated previously - Kenosha has zoning information but the lack of standards limit the utilization of information. Floodplain information is subjective and the county will not stand behind the floodplain location. Farmland preservation can be acquired through the state as Shoreland can be a federal guideline and Airport Protection is a questionable topic.

18.15 Zoning codes and definitions vary from jurisdiction to jurisdiction and it would be inaccurate to apply general conditions or definition across zoning jurisdictions. Other zoning related dataset also differ across jurisdictions. This requirement would need to be cross referenced with local ordinances. Suggested standard would be that polygons used a general color palette (residential = yellow, commercial = red, etc), but that there is a text field for a specific zoning code (R1, C2, etc.) and jurisdiction value.

18.16 It is our opinion that the agency whom created the data should be the definitive source for the data. Therefore, FEMA is the authoritative source for (floodplain).

18.17 There are a couple of layers listed here that we don't maintain. Are we suppose to build these even if we don't use them. The Floodplain layer is actually created and maintained by FEMA and the DNR. Not sure why we should make them downloadable when the county isn't the custodian.

18.18 The questions being asked are more cosmetic and not related data design or standards. County jurisdiction on zoning is limited to township and areas outside the Extra-territorial Zoning Jurisdictions. Zoning codes and definitions vary from jurisdiction to jurisdiction and it would be inaccurate to apply general conditions or definition across zoning jurisdictions. Other zoning related dataset also differ across jurisdictions. This requirement would need to be cross referenced with local ordinances. Suggested standard would be that polygons used a general color palette (residencial = yellow, commercial = red, etc), but that there is a text field for a specific zoning code (R1, C2, etc.) and jurisdiction value. Floodplain data is a purview of FEMA and this dataset should not be placed on counties to provide. FEMA has processes in place to download and stream data.

18.19 Again, we would need to come to an agreement with the county or state on how this data would be transferred to them for Janesville-specific information.

18.20 It should be noted that Farmland Preservation Zoning and the Farmland Preservation Plan are two different layers. If the goal is to have a layer that shows parcels eligible for Farmland Preservation under the County Farmland Preservation Plan, then the Farmland Preservation Plan data is what is needed.

18.21 A18. Some of the listed layers are created without the assistance of WLIP funding. Do these layers fall under the requirement? We would suggest combining Farmland Preservation into County General Zoning. The County is not the custodian of FEMA floodplain layers.

18.22	It needs to be made clear that these layers are not required if they do not exist...the counties are not required to create them... We are not responsible for municipal zoning and they do not notify us of changes...this layer or links to this is not practical. These layers should not be required to be created or updated before WLIP money is spent on other land records related projects not covered by this survey.
18.23	We do not maintain all of the above layers.
18.24	County Zoning is managed currently as an overlay. The accuracy and currency needs to be defined.
18.25	None of these should be required elements. Although municipal zoning may be maintained by the county, it is not the property of the county, and the county does not have a right to post it.
18.26	Eau Claire County General Zoning is not parcel based. FEMA maintains the authoritative Flood Plain.
18.27	No changes. But some counties do not track or are not responsible for some of the data in this category so I would not make every layer mandatory.
18.28	The only issue I would have here is currently Ozaukee County does not have a right-of-way for all roads in the County. Some parcel data has road right of way but there are areas in the county where the parcel boundary goes to the road centerline and therefore we do not have a right of way boundary. We have found it difficult to find documented proof of the width of the right of way in some areas. Accuracy would be questionable.
18.29	Zoning must vary a lot across the state. With WLIP sort of consolidating this information, perhaps some general statewide "README"/GUIDE could be created to explain some of the complexities that can be expected? Maybe such already exists.
18.30	No County General Zoning City, not County, has Airport Protection FEMA Floodplain Farmland Preservation - but not Farmland Preservation Zoning Shoreland - This would require additional ground data such as OHWM Again - Some of this information is other department/organization data created without any WLIP funds - CAUTION must be used requiring any and all information.
18.31	This would be problematic. Our towns would not want and would not allow their data to be on the state's site. We already built a special web app for them so they can edit their zoning maps online, and the fact that it is part of our website makes them really nervous. Putting the text for their local zoning ordinances out on a website is an even bigger deal for them than the mapping, but in order for the mapping to be meaningful both should really be out there. The only way that our towns want their zoning data to be accessed by the public is via a phone call.
18.32	A18. Any zoning data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
18.33	Would be able to provide datasets and attributes that are being maintained by the county
18.34	Shoreland Zoning for La Crosse County is done by ordinance and on a case by case situation. A highly accurate shoreland zoning layer might not be achievable. La Crosse County does not maintain any municipal zoning.
18.35	As long as the only data required to be submitted by the county is data that is maintained *by* the county, I see nothing problematic about this data layer description as it is written However, I do believe that there should be an earnest outreach attempt made by the state or, at very least, facilitated through additional county funding to create/collect zoning data layers for all zoned municipalities.
18.36	Are LOMA and LOMR changes required in the Floodplain data?
18.37	Municipal Zoning Information Maintained by the County is not maintained using WLIP funds but rather billed at an hourly rate to municipalities. Furthermore, each community has their own specific zoning codes.
18.38	"Link(s) to webpage" needs to be defined. What do you want - ordinance information, county board action, or just spatial data??
18.39	Manitowoc County would like to see floodplain removed from the list of Zoning data layers. We are a daily user of FEMA's Flood Hazard layer, but we did not create it and we do not maintain it. If someone wants this layer, we send them to FEMA or the DNR as our policy is not to redistribute other agencies' data. We do not have a digital Airport Protection layer.
18.40	The primary complication with the geometry of zoning information is related to the number of special zoning districts (i.e. overlay districts), and multi zoned parcels. It will especially be significant if municipalities are directly included in these requirements in the future. You asked for viable solutions to these problems. Although less than ideal the best solution I can think of is to have layers for several standardized zoning layers (i.e. zoning, airport protection, height limitation zoning, shoreland zoning, etc) as well as a catchall layer. This layer may have stacked polygons. Trying to have all of these zoning records have a simple database relationship with parcel records is not practical. Especially with the variation on who maintains zoning data. It is very common to have multiple jurisdictions who maintain different zoning types for the same area.
18.41	A18. Again a somewhat dynamic layer that is a subset of the parcel layer. I am sensing that there will need to be a very structured collection, review, quality control, and delivery process for the last few items being proposed. The may be some out of scope items appearing here and below.
18.42	A18. Some of these datasets we do not currently have and they would need to be created.

18.43 1- Should only require data maintained by the county. Villages, cities and towns might have their own airport, farmland, etc zoning. 2- Need data disclaimers.

18.44 The County only has overlay zoning (Bluffland, Shoreland, and Floodplain). We also have a highway setback ordinance that only includes three towns (which would be easy to map). The farmland preservation plan was recently adopted and a map layer does exist, which we can identify and submit to the state. None of the municipalities with zoning have the county maintain their data; and only a handful have zoning information available on the internet (which is beyond our control).

Federal Government
18.45 You forgot Wetlands! Meaning Regulatory Wetlands.

Private Sector/Company Located Within Wisconsin
18.46 Floodplain can currently be obtained directly from FEMA. Therefore, the County wouldn't have to regularly distribute it since it is already publicly available from the federal source.

18.47 I would like to see sublayers. Or more zoning classifications.

Private Sector/Company Located Outside of Wisconsin
18.48 just be alert that these layers can have overlap. also it maybe be useful to have a cross walk from local data to a general state escrition like single family residential

Educational Institution
18.49 Given that the Wisconsin statewide parcel map also intends to aggregate these zoning layers on an annual basis for the foreseeable future, and that there is a standard for submitting this data, it is recommended that any additional requests for parcel or tax data be provided in their native form. Providing this data in native form would prevent against duplicating submission efforts, help preserve some of the native granularity of jurisdictional datasets, and better satisfy the needs of archivists such as Robinson Map Library. However, if a statewide parcel map data submission is enough to satisfy this requirement of submitting zoning data then this comment can be disregarded.

Q19 - ADMINISTRATIVE BOUNDARIES [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	**76**%	87
Comments/suggestions/changes you feel are needed to make the data layer description for Administrative Boundaries satisfactory	39%	44

State Government
19.1 Nothing problematic with the description of Administrative Boundaries

19.2 data that can be collected via Wise-Decade.

County or Local Government
19.3 Should be fundable, but not mandated.

19.4 My comment would be to include standard data format (such as the parcel 'searchable' standard) for all of these layers.

19.5 Administrative Boundaries should be a WLIP supported activity. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. DPI is the official custodian for school district boundaries. I can provide districts based on how parcels are taxed, but that may or may not match the legal boundary. I have had trouble reconciling lake and public safety districts based on taxation with their legal boundary. It is important to recognize what layers counties are actually the custodian of and not make them responsible for things they are not. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.

19.6 Already available

19.7 These datasets are created using tax roll coding where available, and changes may occur without notice. Boundaries may only be updated upon request. Many of these are not within the County's jurisdiction to change.

19.8 Need to have DPI commit to completing the School District Boundary reconciliation analysis project that was started/discussed a year ago, and finish working with the counties to ensure accuracy of this data layer.

19.9 Each counties data is created to their own standards and attributes and some counties may not have all of the requested data.Data is also outdated as soon as it is delivered to the state.

19.10 Civil division boundaries are included in Ashland County's GIS, but other items listed are not.

19.11 There should be a definitive source for school district boundaries, something higher up than the County GIS departments.

19.12	Civil Division Boundaries, School District Boundaries, Election Boundaries can be obtain through the State should be removed from a county requirement. Other Administrative districts needs to be better defined.
19.13	These sound fantastic, but we really need to communicate and track down who is responsible for the root data. Who is the source?
19.14	The management of municipal boundaries, school districts and election boundaries is the one area where a state agency is actually working as a partner with counties to create statewide datasets. This partnership also includes the state agency providing the data brokering roll to the federal government for these datasets.
19.15	There are a couple of layers listed here that we don't maintain. Same issue as previous question.
19.16	The questions being asked are more cosmetic and not related data design or standards. The management of municipal boundaries, school districts and election boundaries is the one area where a state agency is actually working as a partner with counties to create statewide datasets. This partnership also includes the state agency providing the data brokering roll to the federal government for these datasets. This is one area where work is progressing to create a set of base standards and providing tools to aid in the maintenance of a statewide dataset(s). Access and distribution of these dataset points to the need for the State to provide a Central Geospatial Data Repository.
19.17	Again, we would need to come to an agreement with the county or state on how this data would be transferred to them for Janesville-specific information.
19.18	A19. Utility districts are privately maintained and in some cases not available for download.
19.19	It needs to be made clear that these layers are not required if they do not exist... These layers should not be required to be created or updated before WLIP money is spent on other land records related projects not covered by this survey.
19.20	Native American Lands is not a simple layer. We have several ownerships that may be Native American Lands as well as changing reservation boundaries. We have tribal lands, USA in Trust, USA, and several other entities that hold title.
19.21	Public Safety layer needs to be defined. There could be many of these outside the control of the county which may be difficult to map. May need funding to accomplish.
19.22	This element should be fundable. But, it should not be required.
19.23	Public Safety is too broad, more detail needs to be given.
19.24	School Districts should maintain by DPI. We do not maintain Utility Districts, Public Safety Districts or Native American Lands.
19.25	Should specific formatting requirements be created for some of these layers? Some are submitted for WISE-Decade etc. Should formatting requirements be coordinated? Are Lake Districts more of a zoning thing?
19.26	Lake Districts - we have no data or jurisdiction on this. Again - Some of this information is other department/organization data created without any WLIP funds - CAUTION must be used requiring any and all information.
19.27	A19. Any administrative boundaries data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".
19.28	Would be able to provide datasets and attributes that are being maintained by the county. Additional layer might include fire and ambulance districts
19.29	Until the Dept of Public Instruction can accurately verify school district boundaries and until both the DPI and County boundaries match up, I would question providing this data. People will use it as the gospel, and even with disclaimers, could still make poor decisions with incorrect data.
19.30	The layers are good and data is useful but who will be responsible for creating and maintaining the data and who determines the source of the data?
19.31	No way to verify the School District boundaries
19.32	Clarification on what Election Boundaries means.
19.33	School Districts - this should be supplied by the state. In our county as is the case in most, these boundaries are arbitrary and generated from tax parcels because WI DOE has not been able to provide.
19.34	The data layer description is fine as written. We would have no problem sharing any of the administrative layers we have.
19.35	Other Administrative Districts should be spelled out. What are some examples of these districts? Would it be things like drainage districts?
19.36	A19. A lot of this data is already being provided to the state legislative bureau.
19.37	1- Should only require data maintained by the county. Villages, cities and towns might have their own utility districts or other administrative districts. 2- Need data disclaimers.
19.38	We do not have municipal layers for utilities; the other layers should not be an issue.

19.39 Our quality control on school district boundaries is poor, but we do not oppose providing what we have. Including disclaimer wording would alleviate the concern.

Federal Government
19.40 add sewer districts watershed districts

Private Sector/Company Located Outside of Wisconsin
19.41 it is really valuable to have annexations, deannexation, incorporations and dissolution in the muni layer with the date and ordinance number. a version that is the entire city as one polygon has many uses. don't forget the mcd boundaries as well

Other
19.42 Publish coding standards.

Q20 - OTHER FOUNDATIONAL ELEMENT LAYERS [DATA]

	%	Count
I see nothing problematic about this data layer description as it is written	**71**%	81
Comments/suggestions/changes you feel are needed to make the data layer description for Other Layers satisfactory	43%	49

State Government
20.1 Transportation Specifications: WisDOT is interested in participating when the WLIP investigates the specification and sharing of any transportation asset or event data. This includes but is not limited to roadway lengths / widths, route/street names, right of way as it relates to roadway centerline, pavements, bridges, culverts, signs and signals, and routing attributes (travel direction, turn restrictions). WisDOT participation will be driven by resource availability; so collaboration must focus on specifications for the mutual needs between state and local governments (in this particular case may not be the LIO directly but public works/transportation and safety);   See also Q16 comments (street centerlines).

20.2 Security issues could be an issue.

20.3 data that can be collected via Wise-Decade.

County or Local Government
20.4 Should be fundable, but not mandated.

20.5 Some data not currently available. May create staffing issues if this becomes a required dataset.

20.6 We do not maintain cell phone towers, bridges, culverts. We do have a new set of hydro data with Lidar data but it's mostly a visual only, no other information is conflated into the layer other than to use it for breaklines.

20.7 Link to DNR/FEMA - our county does not map the hydro layer - We use the DNR information.

20.8 What is the data source for cell phone tower addresses or lat/lon locations? PSC? I have not looked to see if there is a comprehensive list of cell towers with good location values there. Bridges and culverts could also use a state standard attribute format in my opinion.

20.9 Other geospatial layers should be a WLIP supported activity. It's priority within the "menu of layers" and deliverable specification should be left to individual counties. There is not enough detail related to proposed specifications, including what is requirement and what is optional, to comment further.

20.10 It would be nice if the DNR would not charge us for the wetlands data...as i would assume they are enjoying the benefits of the data provided by the Counties towards the SPI. At no charge.

20.11 Already available

20.12 Changes to cell towers, bridges and culverts may occur without notice. Additions/deletions may only be updated upon request.

20.13 As with other items, add/develop layer specs.

20.14 Each counties data is created to their own standards and attributes and some counties may not have all of the requested data.Data is also outdated as soon as it is delivered to the state.

20.15 Ashland County does not maintain the above layers as part of our GIS.

20.16 Remove cell towers. Remove culverts under a certain size, unless of course ALL culverts are required for flood analysis.

20.17 I'm not sure how many counties actually maintain a layer for cell phone towers, bridges and culverts as they are not a usual item that is in demand.

20.18 It is unclear why hydrography is grouped in under Other Layers when it should be its own section. The DNR Hydro layer is a regulatory dataset that is called out in many/most counties ordinances related to water

20.19 The questions being asked are more cosmetic and not related data design or standards. These items would be of low priority and could be a priority in the future based projected needs. It is unclear why hydrography is grouped in under Other Layers when it should be its own section. The DNR Hydro layer is a regulatory dataset that is called out in many/most counties ordinances related to water. Included in this should also be the DNR Wetlands that also has regulatory authority. Access and distribution of these dataset points to the need for the State to provide a Central Geospatial Data Repository.

20.20 We do not maintain this information.

20.21 A20. If the county has other data to make public, it should be optional and not required to collect and maintain.

20.22 It needs to be made clear that these layers are not required if they exist... These layers should not be required to be created or updated before WLIP money is spent on other land records related projects not covered by this survey.

20.23 Need to determine if Bridges and Culverts for all roads, ie town, county state, federal and public? Could be a huge undertaking – need resources. Need guidance on a Hydro layer model that would be simple yet useful. May need funding to accomplish

20.24 This element should be fundable. But, it should not be required.

20.25 FEMA maintains the authoritative Flood Plain. We do not alter layers maintained by other agencies. We do not maintain the rest of this list.

20.26 But some counties do not track or are not responsible for some of the data in this category so I would not make every layer mandatory.

20.27 Will the cell tower data duplicate the FCC inventory? Does DOT already have a bridge inventory? Would a culvert data collection project be grant eligible?

20.28 Many layers are maintained by other agencies besides the county.

20.29 Cell Phone Towers?? Bridges and Culverts are not accurate and requires local inventory cooperation. Again - Some of this information is other department/organization data created without any WLIP funds - CAUTION must be used requiring any and all information. Please remember WLIA funds may not covering all associated cost for such an extensive task. Thus, if this programs becomes to involved a County may opt out of the WLIA Grant program.

20.30 A20. Any other data acquired or maintained through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions".

20.31 Would be able to provide datasets and attributes that are being maintained by the county

20.32 "Other Layers" is too open ended. You need a formal list. Counties can choose to add more if they wish, but this shouldn't be open ended.

20.33 59.43(2)

20.34 These need to be optional since a county may not feel that the layer quality is acceptable for distribution.

20.35 The county's hydrography layer is more positionally accurate than the DNR's layer, but there are no attributes beyond some names. We would not want to distribute our cell towers, bridges, and culverts layers for public safety reasons. We have not used WLIP funds on these layers in the past, but may want to in the future if we could be exempt from the "no restrictive licenses and no fees" requirement.

20.36 A20. As we move through this list, I am sensing that there may be a large amount of work being put upon the county land records office to coordinate these proposed mandates.

20.37 A20. Bridge culvert would be a high value layer a lot of thought would need to go into attributes. It would be very useful and if done right would be a great companion to new LIDAR data to aid in updates to Flood Insurance Rate Maps.

20.38 1- Should only require data maintained by the county. Villages, cities and towns might have some of this data (bridges and culverts). 2- Need data disclaimers.

20.39 We are working on developing a culvert/bridge layer; standards would be appreciated.

20.40 We don't oppose providing what is already available, but would oppose a requirement to create layers the County does not have a use for.

Federal Government
20.41 again...add wetlands not has a regulatory layer but as a habitat layer. Forest Inventory ...meaning species, size and density along with forest fuels...NEEDED for FIRE FIGHTING

Private Sector/Company Located Within Wisconsin
20.42 Do most counties have bridge/culvert datasets? I like the idea of making them available, but only if they already exist.

20.43 As I said earlier, The County's should have the ability to use reasonable discretion as to what data they maintain is suitable for making available to the public.

20.44 Cultural features including known cemeteries and catalogued Native American Indian burial sites and effigy mounds.

Educational Institution
20.45 Regarding "Other Layers – as desired by county" we feel that the portal should be built based on the needs of users, rather than by what data happens to be available. A transportation category should also be added, with layers such as street centerlines, railroads, trails, etc.

Other
20.46 Expand on definitions for other utility layers.

Q21 - OPEN DATA DEFINITION OF "CORE METADATA"

	%	Count
I see nothing problematic about this requirement as it is written	**73**%	83
Comments/suggestions/changes you feel are needed to make the "Core metadata" requirement satisfactory	37%	42

State Government
21.1 We support the concept of core metadata for all WLIP funded datasets Please keep in mind some counties might find it difficult to migrate from FGDC's Content Standard for Digital Geospatial Metadata (CSDGM) to the new ISO Geospatial Metadata Standard.

21.2 If our software will be used to collect this information we would like to be involved in the process of determining the requirements (for tech reasons only).

County or Local Government
21.3 Many counties do not have the funding available to maintain metadata. The state should not force counties to expensive mandates. This should not be a requirement of receiving funds.

21.4 We provide this in our interactive mapping in the service area.

21.5 Focus on what the user needs to know in a format the average user can read and interpret. Don't get hung up on complete ISO or FGDC compliance.

21.6 Vilas has metadata in document form, and is available upon request. Converting all of the County's data assets to the ISO 191 or FGDC format seems to be time consuming with little potential for adequate ROI and cost prohibitive at this time. Resources are allocated to maintaining data with a high ROI. Also, if it is not automated in some way, I doubt that there will be resources available to maintain the metadata as changes are made unless the format is simple.

21.7 Ashland County does not have a GIS specialist on staff and we would have difficulty meeting a required standard at this point.

21.8 Metedata requires time to create and quit often is not properly created and maintained, however its a critical factor and needed. Just have to commit to creating and maintaining it.

21.9 Need to define what is meant by "abstract" and feature and attribute definitions/data dictionary.

21.10 There should be consideration of the UW Map Libraries and the SCO assisting counties in the development and management of metadata. Instead of looking to open source solution, there should be a greater emphasis on managing the metadata within a dataset and streamlining the publishing process.

21.11 What metadata standard should be used, FGDC and ISO? Currently the tools for managing metadata can make the effort of development and maintenance very arduous. The metadata should also include a disclaimer to cover omissions, errors and misuse. The should be consideration of the UW Map Libraries and the SCO assisting counties in the development and management of metadata. Instead of looking to open source solution, there should be a greater emphasis on managing the metadata within a dataset and streamlining the publishing process.

21.12 - Lack of staff resources to complete Core metadata for all County datasets in the time specified.

21.13 This may be dependent on the version of GIS being used. Certain versions of our software don't have complete metadata creation tools, so we would need to know what the minimums would be so we don't spend too much extra time working on this.

21.14 Nothing problematic, however if there are certain areas of missing metadata for reason - perhaps an opportunity to explain to still be WLIP grant compliant.

21.15 A21. Item Description Metadata is what our county strives to maintain. Working with the "Big Ten Academic Alliance" should be considered in developing metadata standards.

21.16 Staff time would limit amount of data that could be entered and maintained regarding this requirement.

21.17 There needs to be an educational component on what is required and how to create and maintain metadata before this could be implemented...

21.18	Keep it simple.
21.19	Because many counties do not maintain metadata, and because of the cost involved in changing metadata formats to a new state designed format, this should not be a required element.
21.20	We do not maintain this for all the layers noted in this survey.
21.21	I would change modify date to a major revision date. I do not want to update the metadata every time I do a split or fix a minor error.
21.22	Some historical data we may never be able to produce due to a death that took place within our organization. The person that passed away would have been the only one capable of producing said data.
21.23	Nothing problematic, but we would need to create updated metadata for our current layers.
21.24	A21. Any data acquired or maintained through WLIP funds, may have a requirement to meet specific core metadata standards and be provided back to the State with "No Restrictions".
21.25	Will take time for many counties to get metadata updated.
21.26	Keep metadata basic. You shouldn't need a full time person to keep metadata updated.
21.27	Metadata is often the elephant in the room. ISO 191 standards are ghastly. FGDC Standards can be a little over the top for certain datasets also. Metadata should be kept very simple if that is all that is needed and very precise if the dataset requires. Lets not be to restrictive here. Metadata will be more useful if it states only what is needed.
21.28	Should the point of contact for each municipality be differentiated or is this metadata going to make the GIS/LIO responsible for the condition of all data within the boundaries of the county regardless of municipality, accuracy, or creator?
21.29	The metadata content is fine as written. Training on exporting metadata from ArcGIS to ISO 191** would be useful.
21.30	The primary challenges with this is the effort required to comply with the requirements
21.31	A21 I am in agreement of good metadata for any dataset, public or private. This should be at, or near, the top of the list.
21.32	A21.Nobody likes metadata but it is necessary. We have incomplete metadata and in some cases I may not be able to verify some of it due to age of the data. More training and assistance may be necessary to gain proper and consistent results.
21.33	We currently have very little metadata, so this will be something I will need time to evaluate and come up with a solution. Some resources on metadata creation would be helpful.
21.34	1- Need data disclaimers in the metadata.
21.35	Most of our layers do not have metadata due to limited staff, resources, expertise, and lack of knowledge about how layers were created by our predecessors. We are working on developing metadata and it will probably take an extended period of time to comply with this requirement based on the time allotment that current staff are allowed to allot to the land information program. Although, we answered no to Q22; we are looking forward to additional guidance from the experts in the state.

Federal Government

21.36	Until better tools are developed I would suggested sticking with the FGDC format
21.37	Come up with consistent international metadata standard and not a unique one.

Private Sector/Company Located Within Wisconsin

21.38	Everyone hates metadata, but everyone know's it's importance.

Educational Institution

21.39	Include Ground Date

Other

21.40	Compilation scale ? Positional accuracy ? Completeness ? Attribute accuracy ? Currency ?

Q22 - OPEN DATA: VOLUNTEER METADATA DESIGN EFFORT

	%	Count
Sign me up to learn more about the Metadata Design Effort	17%	**19**
No	84%	96

Q23 - OPEN DATA DEFINITION OF "STANDARDIZED ORDERED TABLE/LIST (OTL)"

	%	Count
I see nothing problematic about this requirement as it is written	**70**%	77
Comments/suggestions/changes you feel are needed to make the "Standardized Ordered Table List (OTL)" requirement satisfactory	42%	46

State Government

23.1   Nothing problematic with the description a OTL

23.2   I don't see anything problematic about this in general. If this is going to be a requirement then at least make sure this will eventually translate into a more robust system. This could be very easily be done automatically with the use of arcgis.com and rest end points.

County or Local Government

23.3   If a statewide parcel map is already in place why would each county have a need to have a separate map site. This should not be mandated by the state.

23.4   Depends on what "regularly updated" means.

23.5   OK if this is required but would the public ever view this information?

23.6   We are contemplating a highly disparate system where a state agency or other data user could conceivably need to go to 72 county systems and continue to deal with a variety of schemas in order to create a statewide layer. Once that work is complete, the value added product may or may not be made publically available. We need to focus more on statewide layers and published services as well as downloadable data sets.

23.7   If this became a requirement of WLIP, then the County would be forced to comply, but the timeline for compliance would need to be flexible and adequate resources would be necessary.

23.8   Each counties data is created to their own standards and attributes and some counties may not have all of the requested data.Data is also outdated as soon as it is delivered to the state.

23.9   Ashland County does not have a GIS specialist on staff and we would have difficulty meeting a required standard at this point.

23.10   I cannot foresee consensus on this element.

23.11   Timely manner is a very relative term. Where will the persistant URL be located/hosted?

23.12   This would be micromanagement of a county and should be part of the Wisconsin State GIS Data Repository. This requirement speaks more to the need for the State to provide a Central Geospatial Data Repository and associated GeoPortal.

23.13   I don't think this should be mandatory until the 2019 Grant applications are distributed.

23.14   This would be micromanagement of a county and should be part of the Wisconsin State GIS Data Repository. This requirement speaks more to the need for the State to provide a Central Geospatial Data Repository and associated GeoPortal.

23.15   - A simple list of available datasets for download would be appropriate.

23.16   Our data is not in this format, so would the county be required to fit these formats or would we as the providers of the information.

23.17   would need time & resources to establish

23.18   No problem as long as we could use grant funds to develop/host this.

23.19   A23. Wouldn't we all continue to use ESRI Open Data Portal? Why would we list layers that we don't have?

23.20   I am not familiar enough with OTL to provide a comment and don't have the time now to review the Columbia County example against our data to see how easy or difficult it would be to accomplish.

23.21   Because the justification for a statewide parcel map was to create a central clearing house for this information, the requirement for a download service at each county is redundant. It should not be required.

23.22   The OTL template can be concerning for all Counties to follow.

23.23   We do not maintain this.

23.24   The standard table I have no issue with, but standardization in general is not necessarily a good thing. The business needs of a major population center versus that of a rural county are very different. I am worried about having standards based off largely unnecessary attributes, those that make sense for a heavily populated area, for a small county.

23.25   As it is hard to imagine it not being, the OTL should be super simple/ easy to use.

23.26   Standardization serves no purpose to our County at this time, except to increase work load.

23.27	A23. A standardized ordered table list (OTL) would be an inventory of data residing at the county and would include brief descriptions and access links; this information could be provided to the State as part of a WLIP grant requirement. A basic template of metadata would be ideal, so that the OTL serves as a quick inventory, but not include minute detail (... nor be an over-burden to maintain).	
23.28	Would prefer third party hosting option and data upload similar to what LTSB provides. Should be standardized to make it easier on end user	
23.29	Keep this table basic and simple. This shouldn't be time consuming task and the number of columns should be limited. It should be a quick snapshot of the data available.	
23.30	Could you define timely manner and where will persistent URL be hosted?	
23.31	Metadata will require a lot of time/money to establish initially. After the initial investment it will get easier.	
23.32	59.43(2)	
23.33	Perhaps add that statewide standards for most (or all) Geospatial layers is a goal for the plan year ending .	
23.34	This is problematic. The OTL structure is not user friendly and vastly outdated. This section should be reworded to include modern open data download webpages. This should be left open to the county to decided the means of distribution. See example: http://data.ocgis.opendata.arcgis.com/	
23.35	Need more information to be provided to counties on this possible requirement.	
23.36	[Note 1] – Manitowoc County was planning on creating a data download site in 2017, but will probably table that project if the State is going to require a standardized format in the near future. [Note 2] – The Columbia County example is fine, but I would not want to list all of the data layers that are not available to the public. [Note 3] – No issues. [Note 4] – We submit parcels and zoning in the DOA's Searchable Format ONCE A YEAR as required. If the County is required to have a data download site, we should be able to keep all of our data sets in our own format. That way the data can be current without hours of manual manipulation. The other option is to serve the same old data that the State already serves.	
23.37	A23. Again, it is a bit vague as to what datasets are deemed a "WLIP-funded layer." I get the parcel layer, and the ACT 20 deliverables, but it gets a bit greyer as we move down the list.	
23.38	A23. I am not opposed to this but despite not having standards for other layers it would be nice to see a best practice to follow. Again I am not opposed to providing the data I am concerned about being able keep it up and serve everyone. People always want more data and more current data. I can see perhaps even more phone calls generated by having data available. I envision peoples saying I see that you have parcels as of March 31st can I get your latest for parcels and surveys at a minimum and everything if you have it...I am more than happy to provide all that data but just because it is open doesn't mean the requests will slow down. I would consider helping with this item but just cannot spare the time anymore.	
23.39	I believe this should be handled by the state in their storage environment. The list should not need to have a state mandated order, that should be left up to the County.	
23.40	1- I prefer the third party hosting option for all counties.	
23.41	We may want additional guidance on this when it is developed. We will try to comply to the best of our ability and resources.	
23.42	Our request is that the County be able to determine the update schedule that best fits its capability.	

Private Sector/Company Located Within Wisconsin
23.43   As long as the DOA allows the County's a reasonable time to fix errors and omissions before withholding grant money.

Educational Institution
23.44   As stated earlier, we believe that a statewide geoportal needs to be more than a table or list of datasets available online, accessible by a variety of different mechanisms. A statewide geoportal cannot be effective when viewed merely as a "checkbox" to fulfill an administrative requirement. Furthermore, we think that the list of available datasets needs to be reorganized, possibly augmented, and made more precise and specific in terms of individual layers. As an example, in Q14 the survey refers to (a) LiDAR, (b) LiDAR derivatives and (c) other types of elevation data. Each of these is a very broad category that could include a variety of different data products, formats, uses, levels of resolution, and quality levels. It would be useful to define what is needed in terms of geospatial data, and spend time and resources making sure that those layers are available, rather than providing access to every available dataset without regard to data characteristics and potential uses.

Q24 - OPEN DATA: VOLUNTEER OTL DESIGN EFFORT

	%	Count
No	89%	101
Sign me up to learn more about the OTL Design Effort	11%	**12**

Q25 - OPEN DATA DEFINITION OF "LAND INFO RECORDS SEARCH TOOLS"

	%Count	
I see nothing problematic about this requirement as it is written	**61**%	67
Comments/suggestions/changes you feel are needed to make the "Land information records search tools" requirement satisfactory	46%	51

State Government

25.1   Nothing problematic with the description of Land information records search tools

25.2   Not sure how this would be enforced again you could be looking at 72 different ways of doing this.

County or Local Government

25.3   None of these should be mandated.

25.4   Residential Property Record Card Data is not created/maintained with WLIP funding to the best of my knowledge.

25.5   This county does not have the property record data so that would have to be linked through the local assessor.

25.6   As long as tool(s) are made available for us to produce this information with relative ease, I don't see a problem with this.

25.7   Providing a list of existing on-line resources is no problem, but it is unclear what is actually required. You list PA-500 in your example. If you could get the PA-500 data in a "searchable", "machine readable" format that would be great! All too often that data is held hostage which creates significant gap in any statewide system.

25.8   i believe it should not be required or add the statement "if directly maintained within county offices"

25.9   Dodge County does NOT have access to local residential property record card data and no authority to obtain. Our GIS and Register of Deeds search tools are well-developed and data contained is easily available from the county website. Permit data will soon be available on the Dodge County Land Information Search Tool (LIST) through the integrated GSC application integrating access to tax records/bills, property assessment records, DOR transfer return information, ROD documents, GIS mapping, survey documents and tax parcel maps.

25.10 Vilas does not have credit card capability for most services. PA-500 cards are maintained by each Town and the City. The County would only be involved if countywide assessment was instituted. If this became a requirement of WLIP, then the County would be forced to comply, but the timeline would need to be flexible and adequate resources would be necessary for compliance.

25.11 I need to see more detail about these types of items and how they would be implemented/required as a benchmark etc... for WLIP grants before I could state that there is nothing problematic about this question. We currently use WLIP funding to pay for our on-line GCS portal that is used to provide property assessment/tax and Register of Deeds real estate document information to the public, but not sure if would meet any current/future specific search/information standard.

25.12 Residential Property Record Card Data (PA-500) Search Tool is not applicable in our county as the assessors do not have websites or data available online. Some of these tools may be impossible for counties to create due to technical problems or time constraints to create.

25.13 Ashland County has a GIS website and a real estate document search website available that provide access to recorded real estate documents and property records. We do not have a permit data search tool.

25.14 The property record card PA-500 is not a downloadable or stored feature at this time. It is my understanding that access to this information cannot be made through any county in the state or the DOR.

25.15 We don't own the PA-500 cards, and they are owned by the Municipalities who hire the assessors. I personally don't feel that it's a good idea to freely display the floorplans and very detailed assessor information on the web. That's bad business practices against assessors (but very convenient for realtors).

25.16 The general GIS Search Tool and ROD Search Tools are broadly available. However, how can a LIO be held accountable for actions by an elected official (ROD) if they do not provide online access? Permit data is a very broad items that is not control by one department and there needs to be a specific need identified why this is needs across the state.

25.17 This should be referred to as online data access. The general GIS Search Tool and ROD Search Tools are broadly available. However, how can a LIO be held accountable for actions by an elected official (ROD) if they do not provide online access? Permit data is a very broad items that is not control by one department and there needs to be a specific need identified why this is needs across the state. Property Record Card Data is something that DOR should be providing and that counties could access and provide thru an online service, but this should not fall solely on counties to provide.

25.18	- Lack of staff resources to create search tools in the time specified. Although an Open Data Portal would be an easier way to provide searching ability for GIS data layers.
25.19	Would this search include a map of the areas they want or would it be strictly for the whole county at once?
25.20	A25. I am unclear about this question. If this is to be a part of one of the benchmarks, there needs to be more description regarding what type of searches are requested; spatial, attribute, or a combination. Also, this is the first I have heard of anything dealing with County permit data. Should a search tool even be mentioned before there is any mention of the required underlying data?
25.21	would need time and resources to establish Residential Property Record Card Data (PA-500) Search Tool •Real property/property record card search tool •Link to separate webpage/table/list with municipal assessor website links
25.22	Permit Data Search Tool – Rock County does not have County zoning or issue building permits, they are issued at the local level. What permits are you looking for? Need more information. As this could be extremely labor intensive. PA-500 Search Tool – The property record card is the property of the local municipality, the County has no control over this piece of information. The County would have to somehow compel the local municipality to provide this to the County. $$$$ What is the desired update cycle of this information? Do you want a PDF or a database format? The current form from the DOR is a PDF and is not a database.
25.23	Permits are difficult to maintain spatial integrity. Property record cards are extremely difficult to acquire from the multiple assessors and should not be required.
25.24	This would depend on the timeline for required implementation.
25.25	These tools should not be required to be created or updated before WLIP money is spent on other land records related projects not covered by this survey.
25.26	The question indicates 'online search tools for data'. I would think that would be extremely difficult to accomplish. Perhaps it should be an online LINK to where this data could be found would be a more practical approach to the data sets.
25.27	None of these elements should be required.
25.28	We would need more information on this. Do not have some of these systems. Permit data is not electronic.
25.29	If it is required to have a complete permit data search tool there would be major issues to get this complete for Douglas County since the Zoning Office lacks the funding to get all the permits scanned into a digital format.
25.30	PA-500 cards may not be available. I don't want to be on the hook for data I can't get.
25.31	Are there other assessment forms that should be included besides the PA-500?
25.32	technical barriers to implementation, institutional barriers may be an issue. Please remember WLIA funds may not covering all associated cost for such an extensive task. Thus, if this programs becomes to involved a County may opt out of the WLIA Grant program.
25.33	A25. Much of the Land information records search tools identified above goes beyond technology and data currently residing at the County-level in an easily accessible, digital format. I believe many of these needs have unique situations that may require development and integration of tools beyond standard GIS services at the County. Register of Deeds has a set fee component to acquire deeds, which brings another system requirement into accessing records; many permit records are not in digital standard format other than the index; and assessment responsibilities and detailed records do not reside with the Counties. Technical-process solutions and strategic funding should be identified prior to making any of these search tools future County requirements with WLIP grant funds.
25.34	Many Counties already have search tools for many of these items. I think it would be fine to continue to enhance search capabilities, However, some of these items (permits, property record cards) are not maintained by the counties, and should not be a required record to search for.
25.35	First, not all assessors are online and digital. Some just have Excel spreadsheets. Second many assessors use Market Drive and without legislative mandates, assessors will balk at the additional expense Market Drive and other vendors will charge to export this for this purpose. Data that is in PA500 cards are owned by municipalities, not the counties, and different assessors use different data. Until DOR pushes countywide assessing, or until their is legislation mandating data to be in a certain format that is easily tied to County records, I feel like this request is not realistic.
25.36	The assessors for each township have the PA-500 card data for their use. the County doesn't have their data. The data on the PA-500 cards should be used by the individual assessors for their assessments and not for the public to view everyone's floor plan.
25.37	The county does not maintain permits for all municipalities. Nor do they house/maintain the Property Record Card information.
25.38	Some of these tools/apps would require a great deal of additional out-of-contract services to counties that rely on (contracted) third-parties to create, maintain, and/or host their web maps. To require these records without additional funding will, as I've mentioned before, place even more burden on Land Information budgets that are already stretched thin. In many instances, assessors and others responsible

for the preparation/submission of documents *refuse* to use a computer/submit records digitally. Focusing efforts on standardizing the submission process needs to come before requiring county-wide hosting of said data otherwise, the troubleshooting/problem solving (the time consuming part) falls onto the county.

| 25.39 | no recorded documents will be available for viewing or printing per 59.43(2) |

| 25.40 | I don't understand the question. Would the county be required to create all of these search tools? We have a GIS web map and ROD indexing and imaging site. You can see a list of permits associated with a rural property using the GIS website and can even search is you know the permit number, but it is not a separate permits website. There is no link to the actual permit. The county does not have access to PA-500 cards. |

| 25.41 | Permit Data and the Residential Property Record Card data searches will be tough. Permit data in some cases may be manual yet in some counties. Municipal level data is held extremely close to the vest by each local assessor. Hopefully they are all electronic now in the state. |

| 25.42 | Our County satisfies some of items on this list, and others may take time to become compliant. This is a good wish list of a transparent and open source county, but the reality is it may take time, money, staff hours, software, and money to make these happen. |

| 25.43 | In this county, all PA-500 cards are held by the assessor. We do not see them or have access to them. This would have to be an assessor requirement or change it to make it mandatory that this information be shared with the county. |

| 25.44 | A lot of that data is also an open record so why should people be allowed to charge to have access to PA-500s if they are in a digital format? Perhaps I misunderstood though and that statement is directly specific to ROD data. Not quite sure what the point is here. It appears that it promotes us to house our data as most of us do on a website where data queries are to be made etc. Most counties have GIS sites that allow for queries but it is less common to have all permits and property cards out and available. With our current assessment system the property cards belong to the local municipality so that is an extra layer of coordination and perhaps should push that down the list. Permits may not be available in digital format in all counties another barrier to sharing data. It perhaps also should be farther down on the requirements list. |

| 25.45 | Either through administrative code or legislation the Residential Property Record Card Information should be hosted at the county level for those communities lacking in-house assessment offices or sites. Custodianship of that data should also rest with county personnel most familiar with the information in those records. |

| 25.46 | 1- Should only be the County GIS system. Not city, village or town GIS web map links/tools. 2- More permit data is probably at the city and village level. County permit data is helpful, but more should exist in the other municipalities. 3- The Residential Property Record Card Data is typically held by the assessor for each city, village or town. This should only be mandatory if county wide assessing existed. |

| 25.47 | We will need to work with an outside vendor to develop the land information records search tools that we currently do not have (permit data search tool). We have entered all county permits onto a permit tracking software in the last year, but we do not have the capacity to create these tools by ourselves. |

| 25.48 | 1. We do not have our permits tied to parcels and have no immediate plans to do so. 2. We do not have nor are interested to obtain city, village or town permits. 3. The residential property record card data is held by the local assessor and the County does not have access to it. |

Private Sector/Company Located Within Wisconsin

| 25.49 | Having everything in one central site is a good idea. Links and URL queries make this pretty simple. |

| 25.50 | Residential Property Record Card Data Search Tool should be eliminated until all counties are on a county assessor structure. There are several different software systems used by local assessors. The process to coordinate all of that information would be too burdensome at this time or in the near future. |

Q26 - OPEN DATA DEFINITION OF "SUBMITTED TO DOA AS A RECORD"

	%	Count
I see nothing problematic about this requirement as it is written	**77**%	84
Comments/suggestions/changes you feel are needed to make the "Submitted to DOA as a record" requirement satisfactory	30%	33

State Government

| 26.1 | Nothing problematic with the requirement to submit to DOA the OTL for the development of a WLIP Portal |

| 26.1 | A26. It is essential that there is one repository for this open data and that the GIO/DOA is responsible for collecting, hosting and disseminating said data created from tax payer money. |

| 26.2 | I just see these intermediate steps as being unnecessary. It would be better in my opinion to work on implementation of a comprehensive system that meets all of the communities' needs. |

County or Local Government

26.3   I agree with our county LIO "GIO should continue to explore a statewide repository. Portal solution until they received authority to implement a solution.

26.4   A statewide repository would be much better than just a portal. A one-stop-shop for those who need statewide datasets would be much easier for the user. The State already has servers and staff with posting and backup protocols in place. Datasets only grow in size as time passes.

26.5   As long as tool(s) are made available for us to produce this information with relative ease, I don't see a problem with this.

26.6   Again, we are conceivably having 72 counties setting up 72 systems to meet the open data requirement. We are talking about spatial data without a spatial discovery method. Although this would make it easier to know what data is available, we are only solving a small part of the problem.

26.7   If this became a requirement of WLIP, then the County would be forced to comply, but the timeline would need to be flexible and adequate resources would be necessary for compliance.

26.8   As long as it is presently available and as in QIO the wording privacy, security or privilege limitations are better defined.

26.9   Under the current structure of the DOA/DET, does the GIO have the authority or staffing to development, manage or require a Geospatial repository or portal? The requirements listed provides are a start towards a set of standards for aerial imagery. There should be a reference to an ASPRS standard. Other consideration would be imagery tiling size (section, quad-section), tone balance and color balance. What is the resolution standard for state submission? Strategic Initiative funding needs to cover at least 51% of the project cost for it to be submitted to the state.

26.10   This question points out that DOA is only focused on the development of a Portal and rather the focus should be on the development of a State Repository and only after that should there be the development of a portal. Under the current structure of the DOA/DET the GIO does not have the authority or staffing to develop, manage or require a Geospatial repository or portal.

26.11   - Providing a URL to a County specific Open Data Portal would be a good way to give users access to County GIS data.

26.12   What format would the Portal be in? FTP? ArcGIS Online? We would need more information on the options available.

26.13   would need time & recourses to establish

26.14   There would be a cost to the County to develop the online interface for the OTL. No problem as long as we could use grant funds to develop/host this.

26.15   A26. Can the County's OTL be the ESRI Open Data Portal?

26.16   I do not know about the technology to know what difficultly there could be in accomplishing this in the future.

26.17   GIO should continue to explore a statewide repository / portal solution until they receive authority to implement a solution.

26.18   No need for the GIO comment.

26.19   We currently do not have this and don't know what it would take to create   We would prefer to know the comprehensive solution rather than prepare for an intermediate step that may or may not be used. Our County has specific limitation on what we can do to publish web services.

26.20   For the most part, I can see providing the search tools, however I feel this, as worded, is problematic because of technical barriers to implementation and institutional barriers. Ozaukee County has a link to Saukville's municipal assessment information through our GIS website but I am not sure I would have the ability to do the same with the other Municipalities and Assessment services.

26.21   A26. A standardized URL of an ordered table list (OTL) would be an inventory of data residing at the county and would include brief descriptions and access links; this information could be provided to the State as part of a WLIP grant requirement. A basic OTL template of metadata would serve as a quick inventory, and not include extensive detail ... and over-burden Counties to maintain.

26.22   Would prefer third party hosting option and data upload similar to what LTSB provides. Should be standardized to make it easier on end user

26.23   This should only be a stop gap measure with the end game being a state hosted solution.

26.24   59.43(2)

26.25   A26. I cannot answer this as now we are entering a new concept of open data delivery. Is the state offering to collect the local data and coordinate/execute the export process on their servers?

26.26   A26.Once you have the records you have to share them too as they are an open public record correct. It would be a lot cheaper to have all the data in one place but locally we will still get the calls and we are the ones who can answer questions about our own data better than anyone else. If the WLIP Portal is an intermediate step what is the DOA and GIO's preliminary view of the comprehensive solution at this point in time. If we can skip building an intermediate system and jump to the advanced it might be a better idea

in the long run. It will cost less that is for sure to engineer it once rather than twice.

26.27   1- I prefer the third party hosting option for all counties.

26.28   We will try to meet this requirement to the best of our ability.

Educational Institution

26.29   As noted earlier, we believe that even an initial solution to a statewide geoportal needs to be more than a table or list of datasets available online. We advocate for a more refined approach that provides necessary data to users in a more consistent, streamlined manner. The geoportal has been identified as a separate area of investigation for the GIO, and effort should be expended on this investigation, starting with an analysis of user needs based on existing/historic surveys as well as outreach and information gathering.

Q27 - BENCHMARK 3.2 – AERIAL IMAGERY BASE PRODUCT

	%	Count
I see nothing problematic about this requirement as it is written	**60**%	68
Comments/suggestions/changes you feel are needed to make the "Acquisition of Aerial Imagery" requirement satisfactory	52%	59

State Government

27.1   General Comments: While this is specific to WLIP funding a county may receive for county-level projects, it's something to monitor for potential future leveraging opportunities here at DOT.

27.2   A27. Can the agency/institution that hosts WisconsinView guarantee continuous staff support and server responsibility for county aerial imagery? I think DOA and the GIO should take responsibility for gathering and disseminating all aerial imagery collected in our state. Ideally, our state should have one open data repository for all geospatial data collected via taxpayer money. WEM finds recent aerial imagery acquisition more useful than super high resolution data.

County or Local Government

27.3   Don't believe a state agency should be able to impose mandates on counties. While suggestions are welcome policy making should stay under the respected county entities.

27.4   Seems a very reasonable cycle (6 years) for orthophotography. Anticipate that self-funded or independent projects will cease and counties will be compelled to participate in a consortium set up by a particular vendor.

27.5   Higher resolution imagery leads to larger datasets. If a County contracts with a third-party imagery provider, the County would have to host mutli-hundred-gigabyte files to be downloaded by anybody with internet access.

27.6   Bayfield County has an area of 1560 sq miles that includes the Islands and makes the flight area over the water even greater. We would like to have flights more often but severely limited by the cost of the entire county and trying to complete PLSS.

27.7   This is fine as long as WLIP funding continues to come to the data producers (counties) through strategic initiative grants, or other funding.

27.8   For my specific county I don't have a problem with this benchmark.

27.9   Why not do this at the state level at this point?

27.10 If this became a requirement of WLIP, then the County would be forced to comply but the timeline would need to be flexible and adequate resources would be necessary for compliance. As for the project specifications, the County plans to continue to participate in the WROC program, and would be subject to the program specifications which will meet or exceed the specifications above. Orthoimagery will meet ASPRS Positional Accuracy Standards for Digital Geospatial Data, published in November 2014. Note 6: The WROC program schedule is currently a 5 year cycle which is adequate for a rural county such as Vilas so there shouldn't be a problem meeting the timeframes established. Note 9: The ability to accumulate grant funding over a two year period would be a very beneficial option to spread the imagery expense over two years to make it possible to afford the higher resolution imagery with IR functionality.

27.11 Would it be appropriate/feasible to include additional options such as satellite imagery data acquisition/subscriptions if they would meet the minimum specs as well?

27.12 It should be up the county tax payers, county boards and land information office to decide the specification of aerial imagery.

27.13 Kenosha and other SE counties within the SEWRPC area are in the process of converting coordinates to NAD 83. The requirement to meet or exceed horizontal accuracy might be affected by the conversion of coordinates.

27.14 The requirements listed provides are a start towards a set of standards for aerial imagery. There should be a reference to an ASPRS standard. Other consideration would be imagery tiling size (section, quad-section), tone balance and color balance. What is the resolution standard for state submission? Strategic

Initiative funding needs to cover at least 51% of the project cost for it to be submitted to the state.

27.15	Oblique imagery should be part of this discussion. Oblique imagery can be very helpful in land use and other mapping.
27.16	The requirements listed provides are a start towards a set of standards for aerial imagery. There should be a reference to an ASPRS standard. Other consideration would be imagery tiling size (section, quad-section), tone balance and color balance. What is the resolution standard for state submission? Strategic Initiative funding needs to cover at least 51% of the project cost for it to be submitted to the state.
27.17	- For larger County's, two grant cycles may not provide enough funding to meet this benchmark. Depending on the grant amount each year, it would be suggested that county's are able to accumulate funds over as many cycles as needed to meet this benchmark.
27.18	These requirements are great, but funding levels would have to be considered because of the great cost of getting data that accurate. Not all county/city governments understand the importance of this data and would need to be convinced it is worth investing in.
27.19	A27. I applaud the change to make this a forward looking benchmark only and allow previous imagery files to be included.
27.20	While having Strategic Initiative Grant funding accumulate over 2 years for these two projects, these products are often acquired in the same year. Perhaps the ability for a 3-4 year accumulation would be a more effective funding mechanism.
27.21	Download capability for Aerial Imagery data as written currently goes against our existing policy for acquisition of digital data from the County, this would have to be brought to Committee.
27.22	You should not require these accuracy levels as long as the accuracy level of the flight is stated in the metadata. Example...Shawano counties last two flights have been flown with 6" pixels and would fulfill the above stated requirements for 6" pixels...but...on each flight the City of Shawano has contributed for the plane to fly lower over the city area to get 3" pixels for the city. There has not been additional control set to enable the increased accuracy to meet the 3" spec...The city is happy with the 6" accuracy but simply want to be able to see more detailed features on the ground. This requirement would prevent that and would cause the city to have to pay more money to get 3" pixels. If a Municipality wants to get 3" pixel resolution but is happy with the accuracy level of 2.4' at 95% confidence why is that not acceptable if it is clearly stated in the metadata? The cost savings could then be used for other land records projects... Let's put it another way...for the counties purposes does it matter if the positional accuracy of a septic system seen on our photo is 2.4' or 4.8'? NO, it doesn't... does it matter if we can see a septic vent pipe in a 6" res photo vs not seeing it in a 12" res photo? YES! Now if it costs $60,000 to get 6" pixels at 4.8' accuracy vs $90,000 for 2.4' accuracy that's a $30,000 difference or ½ of a full time position. What is going benefit our GIS/Land records system and the public more...the higher accuracy photos at 6" vs low accuracy 6" or a position. Disclaimer...all these numbers are pulled out of the sky to make a point that having the accuracy stated in the metadata is the important part...the level of accuracy for the flight should be up to and demanded by the needs of the county
27.23	Due to the size of our county imagery is expensive. I can see a problem funding aerial imagery and LiDAR in the time frames specified. It would take our county several years to accumulate the funds at the expense of other projects and benchmarks.
27.24	I don't have a problem with the specifications per se. I think the general public expects this type of image quality. However, I do believe that 18" should still be an acceptable product resolution. My REAL concern is that WLIP becomes the sole source of imagery funding and de facto imagery program for the State. State agencies, etc. will see little benefit in contributing to projects because they know counties are required to do the work and share the results for free. WROC was successful with obtaining partnership funding. I'm not sure this new model would be. Without the partner funding in 2015, i'm not sure we could afford the 12" imagery. TL/DR: Concerned that imagery costs will consume too large of a portion of the SI grants.
27.25	Aerial photography has been one of the more successful statewide effort and there are a lot of benefits to a coordinated effort. Continue the cooperative acquisition program. I like the idea of being able to accumulate SI funds to pay for it. Data storage and download could be a problem.
27.26	Act 20 MAY HAVE authorized the requirement of orthophotography. However, it did not authorize the imposition of standards like those suggested here. Policies concerning allowable resolution, age, etc. need o be determined by the local county.
27.27	There needs to be a specification set to determine how the accuracy standard is achieved. Is there a QC spec?
27.28	we would have to use all the grant funding and retained fees to be able to comply with this benchmark. We would not be able to have the flexibility to fund other projects. If this is something that the state needs then the state should fund and work on the feature themselves. this is basically just a funding project where we would not specifically be creating the dataset.
27.29	I'm not sure if this is a standard. At current funding level I am afraid this would eat up all SIG funds. We would prioritize PLSS remonumentation over gathering of new aerial imagery.
27.30	The time frames of acquiring new data seem too frequent for rural counties.
27.31	Sometimes due to upper level managers aerial photo flights can get pushed back to the fall. Would all

aerial photo flights have to be done in the spring? The state should look at making Pictometry one of their approved vendors because they take the best images in the state and have a 60 day turnaround time on images. I have a MS in Geography and my professional opinion is I have not seen higher quality imagery products. They also offer a great oblique product. They are also great to work with as well.

27.32	Ozaukee County worries about the technical barriers to implementation on the "Downloadable" requirement.
27.33	Not sure high-res aerial imagery should get such priority that it automatically needs to be repeated every 6 years minimum. I feel there should be defined/understood business drivers for such a requirement; high-res imagery is expensive. When it comes to change-detection, there is NAIP imagery. Possibly "remote" property assessments could be made an option with acquisition of oblique imagery- I don't know the law, but that's a possible business driver for a different kind of imagery/ different standards. It is good that counties can accumulate SI money and pay for imagery over two years.
27.34	I would like to see the date for new acquisition be increased from 6 to 10 years for rural counties.
27.35	Note 8 Above: How would this effect base budget grant? How would effect the PLSS requirement? PLSS is on-going and may never be consider "complete". Note 9 Above: The timeline at the beginning (Q6)does not allow for adequate budget planning. We are in the process of planning for a PLSS, Aerial Imagery & LiDAR Project. These types of projects require a multi-year planning and budget process. The above timeline conflicts will our current WLIA approved plan and County approved project planning and budget. We are proposing to retain SI funds in 2017 for a 2018/2019 Aerial Imagery & LiDAR Project.
27.36	A27. Acquisition of Aerial Imagery specifications for accuracy, infra-red - leaf-off products, and frequency should all be recommendations rather than requirements. I believe it would be better to educate on meeting various specifications and how those might be better suited for different applications, rather than establishing a rigid requirement that may not apply for all circumstances in every county. For example, Pictometry provides a base product of ortho and oblique imagery, but not verified in meeting the horizontal accuracies stated above. However, depending on the applications, the need for various views may supersede the need for positional accuracy. Budgets, urban verses rural, the rate of development and change, the types of forestry or agriculture, and the primary users and their application may all impact what a county believes to be the most appropriate products and frequency for aerial imagery acquisition.
27.37	May need to adjust benchmark standards as technology changes and other options become available.
27.38	As long as each county can choose to prioritize imagery, LiDAR, and PLSS/Remonumentation on their own.
27.39	Do the vendors for WROC, FEMA & USGS all agree to these specs?
27.40	Why the 4-Band RGB-NIR when it is leaf-off conditions. Unless the state host the lidar info, the county doesn't have the capacity to host that info for download purposes.
27.41	The language you are using will exclude some vendors from this process. Vendors of Aerial imagery often have limitations written into their contracts that would exclude them from being part of this process. Are you purposefully trying to select a certain vendor or set of vendors that the counties can choose from?
27.42	Remove: "Imagery that is spring leaf-off collection, 4-band RGB-NIR, at least 12- pixel resolution Meets horizontal accuracy at the following resolutions:" Replace: Imagery that is spring leaf-off collection, 4-band RGB-NIR, at least 12 INCH- pixel resolution Meets horizontal accuracy at one OF the following resolutions:
27.43	Not only is this requirement not problematic, it would be beneficial when writing an RFP.
27.44	Why is leaf off fall imagery collection not included? I know it is relatively rare but I have hear of a heard cases where spring collection did not work and fall collection was able to meet the needed.
27.45	A27. I see our grant money being spread very thin at this point.
27.46	1- Would Pictometry qualify if it meet the specifications?
27.47	I'm sure we can work with our vendor to meet these requirements.
27.48	Please do not require the County to purchase the NIR band as we have no use for it, especially for photography taken during leaf-off.

Federal Government

27.49	What benefit does 4-band imagery in leaf-off conditions give users?
27.50	You forgot that it needs to be STEREO! at least 12- pixel resolution??????? Did you mean 12 bit? The accuracies need include vertical...Again...The world (meaning Wisconsin) is not flat! specify spring, summer, fall acquisitions with a min. 5 year repeat cycle. USE ASPRS Specifications for the resolution, radiometric and geometric accuracies. Frankly, it would make more sense and less costly to have a state run program vs counties.

Private Sector/Company Located Within Wisconsin

27.51	Refer to current published industry accuracy standards.

Private Sector/Company Located Outside of Wisconsin

27.52	I would suggest that oblique aerial imagery be identified as a Foundational Element. There are presently 23 counties and 7 additional cities in Wisconsin that consider their oblique imagery as important of a layer

to their GIS and parcel data as their ortho and LiDAR layers. Moreover, some State Agencies have expressed that they see the value of obliques and would like to expand access to this content for their own purposes. Thus both County-level and State-level support for making this a Foundational Element.

| 27.53 | usda is interested in this for the annual field plots |

| 27.54 | 1)There should be no +/- in front of the accuracy numbers. 2)Other than that, your accuracy numbers are commensurate with the current recommended 2-pixel standard for mapping and GIS applications per the ASPRS Positional Accuracy Standards for Digital Geospatial Data (V1.0 - Nov. 2014), which we would recommend also. 3)We would recommend that you explicitly state that you tie your accuracy requirements to an authoritative standard - the ASPRS Positional Accuracy Standards for Digital Geospatial Data (V1.0 - Nov. 2014), as you did in the LiDAR section. 4)Other than that, we think you have a good standard there. |

Educational Institution

| 27.55 | DOA should reach out to multiple aerial imagery service providers and encourage them to provide feedback on the proposed accuracy standards. Specifically, are these accuracy standards readily achievable by most service providers using current industry best-practices? What national standards were used to develop the proposed WLIP accuracy standards? We assume ASPRS, but the source of this information must be cited. See: http://www.asprs.org/wp-content/uploads/2015/01/ASPRS_Positional_Accuracy_Standards_Edition1_Version100_November2014.pdf and http://www.asprs.org/wp-content/uploads/2015/01/PERS_March2015_Highlight.pdf It may be more useful to specify WLIP accuracy standards using table B.5 (page A14) in the 2014 ASPRS positional accuracy standards. The information presented by ASPRS in table B.5 is simple, and clearly identifies "recommended use" scenarios that are easily relatable by most GIS users without a deep knowledge of photogrammetry. Therefore, we feel it is advisable to more closely follow the ASPRS language of specifying a horizontal accuracy class (in cm) as described in the ASPRS documents referenced above. Metadata for aerial imagery should include a horizontal accuracy statement that follows ASPRS standards, e.g., "This data set was tested to meet ASPRS Positional Accuracy Standards for Digital Geospatial Data (2014) for a ___ (cm) RMSEx/RMSEy Horizontal Accuracy Class. Actual positional accuracy was found to be RMSEx = ___ (cm) and RMSEy = ___ (cm) which equates to Positional Horizontal Accuracy = +/- ___ at 95% confidence level." Four-band imagery is desirable, but our experience is many users do not yet know how to utilize the fourth near-infrared band in their daily work. Therefore, we believe it would be wise to require three-band color imagery (RGB) only, and consider the fourth band as optional. If service providers include the fourth band at no charge, we would view this as an added bonus, but not a requirement at this time. Counties should provide a copy of their final signed imagery acquisition contract to the Department of Administration within 30 days after it is signed by the county and service provider. This should be done to: 1) track the statewide expenditures on aerial imagery services, 2) ensure procured products meet WLIP standards, 3) allow partners such as the State Cartographer's Office to track and inventory upcoming aerial imagery projects. Counties should provide series-level metadata to DOA when their aerial imagery project is complete and has been delivered by their service provider. This will allow partners such as the Robinson Map Library and State Cartographer's Office to update aerial imagery catalogs/portals. |

Q28 - BENCHMARK 3.3 – LIDAR BASE PRODUCT

	%Count	
I see nothing problematic about this requirement as it is written	54%	61
Comments/suggestions/changes you feel are needed to make the "Acquisition of Lidar Base Product Set" requirement satisfactory	57%	64

State Government

| 28.1 | General Comment: While this is specific to WLIP funding a county may receive for county-level projects, it's something to monitor for potential future leveraging opportunities here at DOT. LiDAR Survey Grade Specifications: WisDOT could provide specifications for survey grade requirements for roadway design projects that use LiDAR, should counties be interested for project level data collection; this includes specifications on the dataset density (points per square foot) to extract the necessary information. |

| 28.2 | A28. Can the agency/institution that hosts WisconsinView guarantee continuous staff support and server responsibility for county aerial imagery? I think DOA and the GIO should take responsibility for gathering and disseminating all elevation data collected in our state. Our state should have one data repository and dedicated staff and server budget for all geospatial data collected due to taxpayer money. |

County or Local Government

| 28.3 | This sounds like a costly and unneeded mandate unless a major development has taken place. No reason to replace LIDAR data that frequently. |

| 28.4 | While our current LiDAR is from 2005, we have found it to be extremely accurate with any elevation surveying that has taken place since then (with the obvious exception of nonmetallic mining areas); therefore, it is difficult to understand this requirement. If, indeed, significant changes have occurred (as I am advised), is it not likely that they would also continue to occur within the 8-year cycle that is proposed? When very accurate and up-to-date information is necessary, then, would it not be more cost- |

effective to collect data on a project-by-project basis with technology such as a drone instead of spending what amounts to millions of taxpayer money on a statewide snapshot every 8 years? I also understand the county is not "required" to obtain this benchmark, but the county would be compelled to do so or lose any grant funding possibilities in the future – this effectively makes it a requirement. Will new floodplain studies be done for FEMA with every LiDAR update? I feel very strongly that any requirements to update LiDAR (when good LiDAR data already exists) should be removed from the requirements to obtain WLIP grants.

28.5   It seems that if the State is going to require a regularly repeating schedule of aerial imagery and Lidar, and will be paying for it through these grants, it would be more cost-effective and timely for the State to contract the acquisition of the data on a regional basis and supply the data to the Counties rather than giving them the grants to do it.

28.6   We have completed this and would like to have state wide standards for data delivery beyond USGS latest standards. Such as hillshade and contours. Training. Training and more Training. We have asked Ayers to come up here a number of times with no response. Best data management practices before the flight would have been nice.

28.7   This is great. We are planning for LiDAR acquisition in 2020 but funding will be needed through strategic initiative grants or other sources. Last time (2010) we were only able to do this because of a federal grant.

28.8   If floodplain managers require streams >20 feet in width to be modeled as double lines, then say that. I don't' think it is fair to make a blanket statement that the listed requirements are what ALL counties require. Other than 3DEP grants that may or may not be around in the future, why the 8 year update cycle? I'd prefer 10 years so that if I continue to fly orthophotography every 5 years, I could acquire LiDAR every other ortho flight. In general I think counties need more flexibility in the frequency and specification for their LiDAR flights. The terrain, rural-urban mix, rate of change is extremely varied in the state and the LiDAR data collected should match that. I don't think a one-size-fits-all is the best option. Let home grown business cases determine what is required. 3DEP has been an important funding source, but I don't understand why that appears to be driving what county's will be required to collect. Make sure the accuracy reports FEMA requires is included as a covered activity.

28.9   In our county, i believe it is pointless to keep collecting LIDAR if, for whatever reason, it remains impossible to get the right combination of entities together to re-do our out of date/inaccurate FEMA Flood Plain map panels.That would be the greatest one-time benefit from our LIDAR dataset that we already have, but have been unable to get anything done with due to I don't know what at the WDNR. We do not have the trained staff or proper software to really do anything with the LIDAR, other than generate contours, breaklines, DEM's etc which are things that are most likely not going to change from one collection cycle to the next. Most useful, other than updating flood maps, would be footprints or vegetation metrics (LIDAR derivatives)

28.10   Tough or impossible to afford .7 meter spacing on an 8-year update cycle even with WLIP support, not to mention the added expense required for collection of double line hydro breaklines and hydro breaklines for ponded water >= 2 acres.

28.11   Please clarify what "LiDAR" means (point cloud, contours, DEM, etc.). As for the project specifications, the County plans to continue to participate in the WROC program, and would be subject to the program specifications which will meet or exceed the specifications above. A 15-20 year cycle would be more appropriate for rural counties. Standards must meet County business needs and meet or exceed national ASPRS accuracy standards. IF there is state or federal funding available, and the county wants to pursue it, then the data will support further processing to meet federal standards. This distinction is very important to protect Vilas County from spending County funds on projects to meet national standards which may present difficulties to local users. I am employed by the County taxpayers and must hold County business requirements as my primary focus and responsibility. Users of County datasets would ultimately be responsible for manipulating the data to suit their individual needs. If this became a requirement of WLIP, then the County would be forced to comply, but the timeline would need to be flexible and adequate resources would be necessary for compliance.

28.12   It is hard to imagine rural counties needing Lidar every 8 years. This should not be a benchmark. It would be a burden for rural small land records departments to try to acquire and find supportive reasoning for acquiring that data.

28.13   I'm not a technical peson so I hope all the specs are in the best interest of ALL counties. This stuff: Minimum required specs for countywide aerial lidar collections will be: Nominal Point Spacing (NPS): ≤ 0.7 meter Nominal Point Density (NPD): ≥ 2 points per square meter RMSEz (non-vegetated): 10 cm* Nonvegetated Vertical Accuracy (NVA) at 95% confidence level: 19.6 cm Vegetated Vertical Accuracy (VVA) at 95th percentile: 29.4 cm Minimum classification scheme (classes 1, 2, 7, 9, 10, 17, 18) Hydro breaklines collected for ponded water ≥ 2 acres Hydro breaklines collected as double line for streams ≥ 20 feet in width**

28.14   As stated in Q27 - Kenosha and other S E counties within the SEWRPC area are in the process of converting coordinates to NAD 83. The requirement to meet vertical accuracy might be affected by the conversion of coordinates and the timing associated with the conversion. I also question the need to be current within 8 years. Could possibly be extended to 10 years.

28.15   The two year SIG grant window many not be long enough to provide adequate funding for an expense dataset like terrain data.

28.16	Eight year interval seems excessive. Suggest 10-15 year window.
28.17	Not really sure that LIDAR is needed every 8 years for mostly rural areas no or little development. This could eat up a large share of the grant and retained fees for counties with low document recordings. I think LIDAR every 10 or 15 years might be sufficient in many counties.
28.18	Requiring USGS 3DEP QL2 data standard for LiDAR acquisition should only apply when USGS 3DEP funding is available to cover the additional costs. Otherwise a QL3 standard is sufficient for county use and FEMA Floodplain Modeling. Strategic Initiative funding needs to cover at least 51% of the project cost for it to be submitted to the state. The two year SIG grant window many not be long enough to provide adequate funding for an expense dataset like terrain data. What are the standards for derivative datasets, contour line and DTM's?
28.19	- For larger County's, two grant cycles may not provide enough funding to meet this benchmark. Depending on the grant amount each year, it would be suggested that county's are able to accumulate funds over as many cycles as needed to meet this benchmark.
28.20	Again, these requirements are a great start, but funding levels would have to be considered because of the great cost of getting data that accurate. Not all county/city governments understand the importance of this data and would need to be convinced it is worth investing in.
28.21	While having Strategic Initiative Grant funding accumulate over 2 years for these two projects, these products are often acquired in the same year. Perhaps the ability for a 3-4 year accumulation would be a more effective funding mechanism.
28.22	Download capability for LIDAR data as written currently goes against our existing policy for acquisition of digital data from the County, this would have to be brought to Committee.
28.23	I see a huge problem with this item...Money. If some of the small counties are creating and maintaining all of the previous layers there may not be enough money left over to fulfill this requirement. On top of that to require this every 8 years does not make any sense for a large portion of Wisconsin. In rural counties such as Shawano there is not enough change every 8 years to justify the expense of this...on top of that even if there was most counties prefer their ortho and lidar acquisitions to correspond with the census data...every 10 years. For counties like Shawano that have a large area but a small population/tax base LiDAR is simply to expensive to have at an 8 year frequency. This requirement should be eliminated or at least put to every 15 to 20 years not 8.
28.24	Due to the size of our county imagery is expensive. I can see a problem funding aerial imagery and LiDAR in the time frames specified. It would take our county several years to accumulate the funds at the expense of other projects and benchmarks.
28.25	The LiDAR/Imagery project Wood County did in 2015 cost about $270,000. It is HIGHLY unlikely that I would get support to do that project again in 2023. Assuming SI grants are $40k going forward, I would need to save the next 7 years worth of grant money to pay for it. This would obviously place severe limits on other land records efforts. LiDAR is awesome data. Extremely useful stuff for sure. Unless there are MAJOR contributions, I don't think it is realistic or affordable to expect counties to purchase LiDAR every 8 years. Maybe you could allow for targeted updates to known development locations.
28.26	I would suggest a 15 year time frame for currency particularly for rural areas, or provide for interim deliveries of targeted areas where needed. Unless LiDAR expense comes down significantly two grant cycles would only account for 1/4 of the cost it would be for a county our size. It would be difficult to fund ¾ of the LiDAR by the county every 8 years.
28.27	This proposal is extremely costly and is not justifiable. Considering the topographic mapping available in many areas of Wisconsin. In farm areas, or forested areas, two meter posting is more than adequate. There is no reason to replace LiDAR data every eight years (or in most cases, every 80 years) unless large scale development has taken place.
28.28	Definition of the classifications needs to be explained.
28.29	we would have to use all the grant funding and retained fees to be able to comply with this benchmark. We would not be able to have the flexibility to fund other projects. If this is something that the state needs then the state should fund and work on the feature themselves. this is basically just a funding project where we would not specifically be creating the dataset.
28.30	I'm not sure if this is a standard. At current funding level I am afraid this would eat up all SIG funds. We would prioritize PLSS remonumentation over gathering of new Lidar data.
28.31	The time frames of acquiring new data seem too frequent for rural counties.
28.32	Would LiDAR data collected before 2018 be fine as is to meet the requirement for having LiDAR?
28.33	Ozaukee County worries about the technical barriers to implementation on the "Downloadable" requirement. Also, there are technical barriers in regards to processing and classifying the LIDAR points. Either we would have to do this internally, which we do not have the staff to be able to do this, nor would we have the funds to do this externally
28.34	LiDAR that meets QL2 specs cost Portage County $280,000 in 2016. Even with a $100,000 grant, $180,000 every 8 years is a lot to demand. That's $22,500 per year in a $100,000 budget.
28.35	It would appear the push for Lidar data is from State and Federal agencies. Not sure how it would benefit

a county that has older data where very little has changed. Not sure if the Strategic Initiative Grants would cover the county's portion. Do not count on county's to come up with funding for this projects if the grants do not cover the complete cost.

28.36	As Topography doesn't change much we were wondering if 15 or 20 years would be more appropriate (Instead of every 8 years).
28.37	Similar concerns for the requirement that LiDAR acquisition automatically needs to repeat every 8 years. SI money might not be there every year, which could lead to counties needing to fund such projects in other (substantial) ways. Elevation doesn't change incredibly significantly. Other value-added LiDAR derivatives include hillshade, slope, building classification (of LAS points), and hydro-conditioning of DEM (culverts etc for hydro-modeling).
28.38	County wide LIDAR every 8 years for a rural County is overkill at best.
28.39	Note 11 Above: How would this effect base budget grant? How would effect the PLSS requirement? PLSS is on-going and may never be consider "complete". Note 12 Above: The timeline at the beginning (Q6)does not allow for adequate budget planning. We are in the process of planning for a PLSS, Aerial Imagery & LiDAR Project. These types of projects require a multi-year planning and budget process. The above timeline conflicts will our current WLIA approved plan and County approved project planning and budget. We are proposing to retain SI funds in 2017 for a 2018/2019 Aerial Imagery & LiDAR Project.
28.40	A28. Any LiDAR data acquired through WLIP funds, may have a requirement to meet specific standards and be provided back to the State with "No Restrictions". The State GIO should continue to coordinate County applications and agreements and ensure specification standards are met. A copy of data and/or derivatives should be forwarded to a third-party for meeting download capable and "Open Data" benchmark requirements.
28.41	An 8 year interval would be too much for many counties. If a county has acquired LiDAR data, the update interval should be left to the county based on their needs. Benchmark may need to be adjusted as technology changes and other options become available
28.42	LiDAR is a hard sell to rural counties, particularly if they do not experience a lot of flooding. A requirement to re-acquire LiDAR, in lieu of developing other layers, may not best serve the needs of all counties.
28.43	La Crosse County would argue that 10 years vs. 8 years old would be sufficient for LiDAR acquisition.
28.44	Hydro Breaklines? Every eight years is not fiscally possible for our County. Unless the state is going to pay for that.
28.45	These are great requirements but the cost to rural counties (especially the ones with the greatest land area) will be disproportionately high. How is it reasonable for a county of 51,000 and an area of ~1185sqmi to foot the $450,000 bill ($8.82/person) when counties that benefit from less area to capture and have higher populations (read: more retained fees) are able to acquire higher quality data for a fraction of the cost per person?
28.46	Eight year validity seems a bit aggressive. Some counties have very little change. Does 'spot' acquisition satisfy these requirements?
28.47	If your LiDAR specs are tighter than USGS's, for example, federal grant opportunities may be in jeopardy. If the county has to pay to buy-up to the DOA's specs, two years' worth of grants may not be enough to cover a project. Otherwise, having the specs spelled out will make writing an RFP easier.
28.48	Many counties are going to have difficulty affording to acquire LiDAR on that cycle.
28.49	A28.Can we be guaranteed that the current grant money funding will be maintained throughout this 5 year cycle (and beyond?) It seems that within the context of this survey, there are hundreds of thousands of dollars being earmarked, not including the staff hours that involve the day to day operations and services we need to provide to the public.
28.50	A28.In these parts we fail to see the need for lidar to be flown with the same frequency of imagery. We likely do not see the changes that predominantly occur in urban areas of the state. For us imagery every five years and lidar every ten would make sense. Perhaps I can be informed on more reasons for the greater frequency of lidar acquisition.
28.51	1- Updating lidar every 8 years seems excessive for the northern/rural counties. I think an update cycle of 12-15 years would be a better fit especially with the cost of this data set.
28.52	We are a little concerned about the eight year requirement for acquiring new Lidar Data; it seems a little aggressive. I would like to see a bit more flexibility so that we can acquire lidar and orthoimagery at the same time (maybe like a 12 year currency requirement). This standard appears to be driven by influence from the private sector who are thereby guaranteed additional business and will receive large amounts of the WLIP grant funds in any given year.
28.53	1. We are not aware of what "hydro breaks" are or what applications they are used for. 2. Most significantly, the maximum 8-year updates is cost-prohibitive. This is not necessarily the most valuable data layer for the County to maintain so resources are directed elsewhere, such as PLSS and orthoimagery. 3. The large size of the files prohibit storage online by the County, so we oppose the requirement to have it downloadable. Will the state host the data?

Federal Government

28.54 Overhaul this section as mentioned previously. Specify outputs...surface runoff vs forestry vs bathymetry needs are all different. DO NOT follow the USGS path of One size LIDAR fits all. IT DOES NOT! Some sensors like RADARSAT can make near daily topo elevation change maps to a couple inches in wetlands. Geigermode can do both surface canopy and bathymetry in a single pass with much greater coverage. Optical submeter satellite imagery can make surface veg maps monthly if tasked!

Private Sector/Company Located Within Wisconsin

28.55 Refer to current published industry accuracy standards.

28.56 I'm pretty sure everyone has somewhat current LiDAR, but Grant funds probably won't cover those who need to acquire it.

Private Sector/Company Located Outside of Wisconsin

28.57 1) The desired contour interval is not stated. 2) The classification scheme as stated doesn't mean anything. The classes need to be specifically stated, or you need to tie the classification scheme to USGS LiDAR Base Specification Version 1.2, or the ASPRS LiDAR Standards. 3) DEM cell size is not stated. 4) It might be a good idea to consider making compliance with USGS LiDAR Base Specification v1.2 a minimum requirement, and then make any needed enhancements. This will qualify any contracting agency for 3DEP matching funds from the USGS.

Educational Institution

28.58 Our comments on aerial imagery (Benchmark 3.2) also apply to LiDAR Benchmark 3.3.

Q29 - BENCHMARK 3.4 – OTHER LAYERS

	%	Count
None	62%	68
Comments/suggestions on Other Layers	44%	48

State Government

29.1 A29. The previous layers listed in Q16 – Q20 is a great starting point for additional datasets. I think these layers should be created/captured before moving on to other data. Bridges and Culverts on ALL roads, Utility Districts (with number of customers) and Building Footprints would be at the top of the list.

29.2 Address points and school districts need to be looked at soon! The program should be agile enough to react to legislation if specific topics/layers are specified. Corner end points would be ideal to align county data sets that are now being brought together into statewide layers.

County or Local Government

29.3 Assessments and projects need to be made by the individual county. Mandates should not be made by a single agency.

29.4 Building footprints, more 3d models. Drones and UAV's is moving forward at light speeds. Training on how to incorporate the data and update LiDAR. To know the time allocated to actually complete this.

29.5 The time frame to have all these projects done by 2018 is unrealistic. Funding may be available but what about the County having the man power to get this all done in 2 years and then maintaining this information.

29.6 I would like to see an option that doesn't include the word "layer" because, for example, we could develop land records on our land records system database (attribute data) that aren't necessarily "layers". This parcel data is core to our entire program but it isn't really considered a "map layer", at least not until it is linked to the parcel map as attribute data.

29.7 Ever changing benchmarks make achievement difficult. Find out what is actually needed and do it right the first time. Need to focus on making existing data more usable and valuable and not just on accessibility and collecting new data.

29.8 As additional datasets become a requirement of WLIP, then the County would be forced to comply, but the timeline would need to be flexible and adequate resources would be necessary for compliance, as well as, funding for maintenance of any "required" data to retain WLIP funding.

29.9 None at this time. Only have time to focus on the initial benchmarks.

29.10 It is hard for small land records departments to keep up with the technology and data requirements and also do the required daily work.

29.11 This is really too far out to 'guess' what are needs are going to be.

29.12 NG-911 needs to be more talked about in WI. We need to grab many GIS staff and have them talk with all the law enforcement/dispatchers/IT/phone networking people. There's going to be a big push for all this communication and functionality soon, and I don't feel many counties are going to be ready when we'll need to be expected to be ready.

29.13	There needs to be assessment of various activities that coming up over time. There will be demands for NG-911 or redistricting in 2021. There needs to be an ongoing conversation with the land information community and other interest groups to identify needs and prioritize activities to meet those needs.
29.14	This is a very broad items. There needs to be assessment of various activities that coming up over time. There will be demands for NG-911 or redistricting in 2021. There needs to be an ongoing conversation with the land information community and other interest groups to identify needs and prioritize activities to meet those needs.
29.15	This would be great if we want to continue to provide these services to citizens. And again, we would want to be able to receive the benefits of these grants if the county is obtaining data from the city.
29.16	No comment as long as the PLSS is one of the Foundational Element layers completed
29.17	A29. I would add the E911 address standard to future benchmarks.
29.18	Survey Layer (Plats of Survey, CSM, Plats, etc...)
29.19	NG911 is coming and it could be here as soon as 2019. Address points and geocodable roads will be of utmost importance! GIS is center to NG911. The GIO, Andy Faust, Chris Diller and myself are participating in a NG911 workgroup. This workgroup should result in a list of data layers and standards to support NG911.
29.20	With all that is being requested or new or completed datasets, the magnitude of maintaining these set will require new resources to keep up so I would recommend a mechanism for maintenance, otherwise there is no use in completing a dataset if it is not going to be maintained. Need opportunities for spending SI on maintenance.
29.21	Local needs assessments, and project solutions need to be made by the local county. Strategic initiatives are just another base budget program, aimed specifically at counties with less developed programs. The message sent by long term use of strategic initiatives is: "Don't do anything. If you wait long enough, we will do it for you. I you do it on your own initiative, we won't help, and we will probably make you change it later".
29.22	I don't think there would be money left. Have serious questions on funding for these projects.
29.23	I think for many Counties in the state they will be able to work towards many of the bench marks with the help of the WLIP grants but I think once dates start to get thrown around for when these projects need to be complete it is going to make many Counties fall behind.
29.24	Are we confined to data? How about computing and network infrastructure to support storage and access to the massive amount of open data listed above? I suggest a third party site, similar to Wisconsin View where counties can just put data at some interval.
29.25	Development/implementation of NG9-1-1 GIS data standards for WI.
29.26	Please remember WLIA funds may not covering all associated cost for such an extensive task. Thus, if this programs becomes to involved a County may opt out of the WLIA Grant program. I think the "maintenance mode" must be considered. Some of these data layers take "boots on the ground" to create. Please do not create a monster that is not maintainable by a County with limited resources.
29.27	Preparing for county-wide assessing. We should start to think about file structures for housing the building information from the assessors. The county would take more of an active roll in submitting assessment information to the state. This could get a good segway into working with the DOR more efficiently.
29.28	Instead of the focus being on more layers, maybe we should be looking at improving data quality on key core layers. Might want to look at needs of emergency responders as related to nextgen911.
29.29	Some counties will be stuck on PLSS for years to come, which may take away from future layer development. What will happen then is some counties will be left further behind and trying even harder to play catch up. Obliques and other useful data for emergency response.
29.30	NG911 ?
29.31	Any requirements should be for the benefit of the public. It seems that many of the benchmarks are geared more for the business side at the taxpayers expense.
29.32	Oblique imagery
29.33	Expansion of required layer should not be attempted until current benchmarks are completed by all 72 counties.
29.34	State maintained school district layer. USPS certified ZIP code layer.
29.35	Address points and road centerlines should definitely be the next benchmark data sets. Creating standards could be tricky as we all tend to be controlled by our E911 call centers and their data requirements.
29.36	Wetland Inventory data from WI DNR.
29.37	The only one that jumps right out is building footprints.
29.38	A29.I would not add any more work to this already comprehensive list.

29.39   A29. Traffic sign inventory/road sign inventory, with age, reflectivity, etc. Critical infrastructure layers for emergency management Facilities with hazardous wastes for emergency management/dispatch Health related GIS layers which would likely be non-public, Road condition and surface type attributes added to road centerlines. Crime and accident related GIS which again would be semi-public (some attributes would be non-public)

29.40   Please give us standards for existing required layers so that all data can be used across county borders. This is going to be essential to support NextGen 911. Many of our existing layers will probably need to be completely re-done in the next few years to ensure that they are accurate and functional to support in-house, public, and private applications.

29.41   1. Converting parcel data into parcel fabric 2. Any addition required data layers must be of a statewide value. We would oppose a requirement to create a data layer that is of no value or use to our County.

Federal Government

29.42   As mentioned before wetlands... meaning regulatory boundaries as well has dynamic, seasonal habitat maps far beyond the stale WWI and NWI. Look at the work being done through GLRI with Canada starting in 2017

Private Sector/Company Located Within Wisconsin

29.43   The electric co-op I work for would benefit greatly from statewide road centerlines. Alternative data sources aren't very accurate and compiling datasets county-by-county is arduous. I'd like to see the next benchmark be road centerlines that are ready to be built into a statewide dataset. Address points would also be helpful, but centerlines are more useful to us.

Educational Institution

29.44   The WLIC passed a resolution (unanimously, 2016-06-08 meeting) asking that the GIO investigate priorities beyond current grant cycles, i.e., "incorporate a statement that through the WLIC that a process will be put in place to incorporate stakeholder input to identify strategic priorities, for both the priority elements that are identified in this program plan and for the future, i.e., post-2020. This effort is to be led by the state GIO. This assessment should include consideration of standards, benchmarks, and funding allocation models." We believe that this resolution should be acted upon in a more systematic way than through a single survey question asking for suggestions for additional layers. We should be reaching out to users and coming to some conclusions about what data is generally most valuable so that the WLIP can invest in these resources. Without this outreach, it is not reasonable to expect users to spontaneously step forward with detailed "supporting evidence", business plans, etc., as has been suggested by DOA in past discussions and presentations.

	%	Count
None	63%	66
Comments/suggestions on Current Parcel Benchmarks	44%	46

State Government

30.1 We are still gathering comments from our GIS users in regards to the use of the V1 and V2 parcel data sets. In general we are not receiving any major complaints. One note is that the attribute for "ownership" for publicly owned land may be too general – i.e. state vs federal ownership.

30.2 A30. Curious why FEMA dFIRMs were not incorporated into the floodplain layer? The current floodplain dataset could be misleading since many more counties have adopted floodplain ordinances via dFIRMs. Attributes are not consistently populated statewide yet (e.g. Property Class or Auxillary Classes).

30.3 Our division uses GIS across the state and our office takes care of 20 counties. We need a GIS system that is easy to use, doesn't take a long time to refresh, and helps us make sure that we have the most accurate information available. Due to various counties using different software platforms, there is a learning curve to understand how to manipulate the GIS system to obtain the desired information. If there was some form of standardization of how each GIS system operated, it would be beneficial to all external customers (DOR included).

30.4 Parcel data in the current format is very useful and could become more useful if the gaps in data are added, split and coded correctly. Parcels could be the basis of all derived vector data sets for the state (I don't think we are that far off from achieving this).

County or Local Government

30.5 Should adopt a standard for testing and reporting accuracy of parcel maps. Per our county LIO.

30.6 While I understand the desire and usefulness for a statewide parcel map, the county GIS websites and/or tax portals are able to provide more up-to-date information. Manipulating data into the required schema is quite time consuming. The nature of the tax cycle causes the parcel data to be almost a year old by the time the real estate taxes are generated.

30.7 Know what you are requesting, we have 30 or more tables that make up our tax roll data and the differences between tax roll and descriptions of property.

30.8 The SCO tools seemed to work OK for producing the data in the standard 'searchable' schema, but my v2 observation 'report card' had a lot of markups that pertained to data produced by the SCO tool(s). I think some more work is needed on those SCO tools in order to produce the data to the standards required. I noticed almost all other counties had a lot of red marks on their v2 observation report card.

30.9 There is potential cost each time you change the schema. Proceed cautiously.

30.10 data standard should be developed by the DOA in cooperation with ALL State agencies, our priority here is to match the MSAG standards, ALL STATE AGENCIES SHOULD BE ON THE SAME STANDARD BEFORE YOU FORCE COUNTIES TO A STANDARD I KNOW they are not using all of the same standards especially for road naming abbreviations EXAMPLE OF AGENCIES THAT HAVE ROAD NAMING STANDARDS ABREVIATIONS DOA, DNR, DOR, DOT, DOJ, DOC.... Ill say it again.. get your own house in order first before asking counties to do the same otherwise we find ourselves creating (mostly) duplicate data sets because of the abbreviation standards dont quite match, this is a waste of county man hours and tax payer funds.

30.11 It would be most beneficial for the data producers and custodians if multipurpose datasets, such as a single set of parcel data for DOA & DOR, could be distributed to a single source within the state for distribution to all state agencies. State agencies could download the data and discard any unnecessary information, then modify the data to fit the agency's needs. As previously stated, I am responsible to provide services for the County's taxpayers needs.

30.12 Current parcel benchmarks are working good for Vernon County.

30.13 Statewide schema needs to be standardized between agencies specifically the DOA, DOR, DNR, and DOT. This is a priority as it should not be Statewide zoning should be eliminated as there is no way to standardized this attribute. Benchmarks on Aerial Imagery and LIDAR Imagery updating needs to be re-evaluated specifically as it relates to northern counties.

30.14 More staff, more money, more time for PLSS remonumentation and parcel re-mapping based off the PLSS remonumentation. Our county doesn't have much governmental/board support to recognize the importance of Land Information, and won't see the need to add more staff on the budget. Without this continuous money from the SIG and Base Budget funding, we'd be left in the dark. Also becomes an issue when hiring because some interviewees do not want to chance being hired on grant dollars, and would rather be hired on budget dollars instead.

30.15 Changes to the address information in the parcel model need to be made. Suggested changes are: PREMODIFIER - Street Name Pre Modifier • Old North Main Street • The street name pre-modifier is rarely needed and its use should be minimized.

PREDIR - Street Name Pre Directional • North Main Street • Standard USPS English abbreviations are East, West, South, North, Northeast, Southeast, Southwest, Northwest • Standard USPS abbreviations are E, W, S, N, NE, SE, SW, NW

PRETYPE - Street Name Pre Type • County Highway JJ • A street may have either a pre-type or a post-type, or neither, but not both. • Standard is County Highway, State Highway, US Highway, Interstate. • Do not merge with PREDIR.

STREETNAME – Primary Street Name • Main Street

POSTTYPE - Street Name Post Type • N Main Street • A street may have either a pre-type or a post-type, or neither, but not both. • Standard USPS street type standards

There needs to be greater efforts made by DOA and DOR to resolve data issue and have DOR provide necessary attribution. In this way the counties can provide the parcel geometry and the DOR can join the attributes.

30.16	I would propose the site address information contained within this dataset should be a separate dataset. We maintain this information in a one to many relationship based on primary and foreign keys.
30.17	Changes to the address information in the parcel model need to be made. Suggested changes are: PREMODIFIER - Street Name Pre Modifier Old North Main Street The street name pre-modifier is rarely needed and its use should be minimized.

PREDIR - Street Name Pre Directional North Main Street Standard USPS English abbreviations are East, West, South, North, Northeast, Southeast, Southwest, Northwest Standard USPS abbreviations are E, W, S, N, NE, SE, SW, NW

PRETYPE - Street Name Pre Type County Highway JJ A street may have either a pre-type or a post-type, or neither, but not both. Standard is County Highway, State Highway, US Highway, Interstate. Do not merge with PREDIR.

STREETNAME – Primary Street Name Main Street

POSTTYPE - Street Name Post Type N Main Street A street may have either a pre-type or a post-type, or neither, but not both. Standard USPS street type standards There should not be a separate state domain that generalizes or alters the official POSTTYPE.

POSTDIR - Street Name Post Directional Main Street Northwest Standard USPS English abbreviations are East, West, South, North, Northeast, Southeast, Southwest, Northwest Standard USPS abbreviations are E, W, S, N, NE, SE, SW, NW

POSTMODIFIER - Street Name Post Modifier W Beltline Road Frontage Road The street name pre-modifier is rarely needed and its use should be minimized.

If the PRE or POST attributes need an abbreviation that should be handled be separate abbreviation attributes or a related table that follow Standard USPS abbreviations. All attributes have to be spelled out in mixed case.

There needs to be greater efforts made by DOA and DOR to resolve data issue and have DOR provide necessary attribution. In this way the counties can provide the parcel geometry and the DOR can join the attributes.

30.18	Our parcel data is not in the format for current standard, so we would need some part of the grant funding to provide it to the county in the formats that are required by the state. Otherwise, currently they convert our information into their format.
30.19	A30. Again, insure that the requirements from the WLIP align with State agency and DOR requirements as well as any associated national standards.
30.20	No comment as long as the PLSS is one of the Foundational Element layers completed
30.21	it is very disheartening to have to reprogram and change our entire database structure, including retraining all employees on data entry methods which will result in additional key strokes for every ownership change (which leaves much room for data entry errors) and all associated reports (Assessment Roll & Notices, Tax Roll, Tax Bills, Health Department Notifications etc) across all the departments in the County that use ownership information to an inferior method of listing ownership just to satisfy this mandate. I am extremely frustrated and disappointed with this mandate of showing ownership as owner 1 and owner 2, when our method of First Name, Last Name has worked extremely well for many years for us and is a basic method of normalizing a database.
30.22	There needs to be an understanding that some of the fields and format are simply not possible with some county setups...if a few of these are omitted that should be acceptable.
30.23	As mentioned earlier need to make a better tie between DOR and DOA to avid duplicate efforts for same data.
30.24	DOA should adopt a standard for testing and reporting the accuracy of parcel maps.
30.25	Inaccuracies/holes (sometimes substantial) persist in our parcel dataset. Some major positional "rectification" of these parcels would help address these issues. Mapping to completion or a lot further, government/fractional lots, subdivisions/blocks/lots, CSMs/plats of survey, vacations, condos, and attributing boundary lines with dimensions, and making use of the ESRI Parcel Fabric would also

significantly improve accuracy/ complete/ and give integrity to our parcel dataset. All such datasets and PLSS should be topologically aligned where applicable.

30.26	It seems that the PLSS has been pushed to the side. I do not believe that all 72 counties will have total remonumentation with survey grade coordinates by 2018 nor have them totally integrated into the mapping. That should remain a priority until such time that it is completed state wide.
30.27	Please remember WLIA funds are not covering all associated cost for our Land Information Office. Please be cautious that WLIA does not become another non-funded state mandate or a program that the County can not fiscally support. Please do not require a program that is not maintainable by a County with limited resources.
30.28	Neighboring counties should continue to work together to clean up edge matching issues along county boundaries. This could be easily done with parcel/county boundaries as well as a number of other layers. Additional attributes or data will be limited to what counties maintain.
30.29	We may need more time for PLSS & Parcel Mapping. Not all counties have the same number of PLSS corners & parcels to map. Some counties were further along with their PLSS monumentation. We have made great progress but still have a lot of corners that need GPS coordinates.
30.30	DOR and DOA need to get together to create the same standards for the info needed from the counties.
30.31	See Q32 response.
30.32	I understand the need from the State perspective for standard fields but in some cases these don't meet the local needs
30.33	Consider having assessed acres split out by land class and/or auxiliary class in addition to total acreage.
30.34	We have a problem with the PARCELDATE. We do not edit parcel polygons, but create them as needed from label points and arcs. We started adding dates to lines in Sept. 2009, so 89% of our lines have no dates, and those do not carry over to the polygons. CITY & ZIPCODE were not attributes in our site addresses. If the mailing and site addresses were the same, we were able to populate these fields. Municipalities issue the house number and road name, but the post office assigns the city and zip code. That information is much harder to track down, especially because there is not reliable zip code data layer. Most of the other items on our Observation Report could have been fixed before submission if the instructions had more detailed information about what was unacceptable. Our biggest problems were with the cities whose data were imported and merged with ours. Next year's submission will have many more NULLs. We will continue to view the parcel submission to the DOA as a once-a-year publication exercise. We have too many other publication scripts and websites written based off of our local format.
30.35	The current V2 submission standards took a lot of effort to comply with. As a municipality we created a SQL view modifying our existing Assessment database export table into the V2 format. We were able to get about 95 percent of the way there in a view. The rest required manual work before providing it to Winnebago County. The reformatting of our address data was the most difficult part. My understanding is we currently don't have to supply any zoning data. If that changes the details will be very important. The primary complication with the geometry of zoning information is related to the number of special zoning districts (i.e. overlay districts), and multi zoned parcels. It will especially be significant if municipalities are directly included in these requirements in the future. You asked for viable solutions to these problems. Although less than ideal the best solution I can think of is to have layers for several standardized zoning layers (i.e. zoning, airport protection, height limitation zoning, shoreland zoning, etc) as well as a catchall layer. This layer may have stacked polygons. Trying to have all of these zoning records have a simple database relationship with parcel records is not practical. Especially with the variation on who maintains zoning data. It is very common to have multiple jurisdictions who maintain different zoning types for the same area.
30.36	I think it would make the most sense if you could acquire tax roll attributes from the Department of Revenue for those Counties that submit it. My only thought is this would reduce some redundancy. This might not be entirely possible right now because of collection cycle dates and data standards.
30.37	A30.Clarification on what the date of the parcel is relative to. The date it came into existence, the date it was last edited, or the date it was exported?
30.38	1- Coordination with other state agencies needs to take place. Some of this data is sent independently to DOR. Try to work out a solution that works for all parties to use the same data sets.
30.39	Please don't add Zoning requirements, it varies from town to town and county to county. We are unable to integrate town zoning into the the county layer as the Town's do not share this information with us.
30.40	Could the DOR and DOA please align their requirements so we only have to prepare one dataset. Please. Pretty please.

Private Sector/Company Located Within Wisconsin

30.41	Our needs are pretty basic and are met by the current parcel benchmark. It's wonderful to have this resource available to the public. Thank you, the counties, municipalities, and all others involved for making it available.
30.42	I mentioned in a earlier comment that there were a lot of attributes that I typically don't use for the majority of my projects (engineering for small municipalities). However, I'll admit that I like to have the

options of additional attributes for the projects that do require additional information! So my comments below are simply highlighting my *most needed* items. If the schema remains "as-is", I would be perfectly content. Those that are most important to me are the following: ParcelID TaxParcelID OwnerName1 OwnerName2 SiteAddress LandValue ImprovedValue Honestly, just having the linework and the parcel ID would suffice for most projects. Many times, the additional information is obtained from the existing GIS websites available at the County scale.

Private Sector/Company Located Outside of Wisconsin
30.43 we use this for fire and census. i am so glad to see this parcel data coming to light. well done

Educational Institution
30.44 PLSS data is the cornerstone of parcel map accuracy, and should be prioritized as a step in the statewide parcel project. PLSS data integration takes us beyond Bench Mark #4. Further effort will be needed to create a seamless, statewide PLSS layer—with point, line, and polygon geometry—to both support parcel map accuracy improvement efforts as well as the foundation for other data layers.

30.45 Expanded land use fields

Q31 - ADDITIONAL PARCEL BENCHMARKS

	%	Count
None	43%	47
Comments/suggestions on Additional Parcel Benchmarks	59%	64

State Government
31.1 Having copies of the RETRs from 2009 & forward would be helpful. DOR currently has redacted copies available to the general public - perhaps there could be a way to link the parcel data to the RETR database. Having the building permits linked to the physical parcel would be extremely helpful to all assessors in the state.

31.2 Requirement that rights of way connected to parcels be mapped in GIS...yes!

County or Local Government
31.3 I do not believe that an agency can propose to mandate requirements especially real estate documents. This information can be found in most ROD offices available for folks with a contract. If you are suggesting the ROD;'s should give up their revenue in their respective offices I don't feel it will go over very well.

31.4 The county does not have access to (nor do we maintain) the zoning or land use information for cities and villages. Data on PA-500 cards is not created with WLIP funding. Do not believe this should be part of WLIP benchmarks. Unclear what is meant by "rights of way connected to parcels." Utility and other types of private easements are not maintained as any kind of mapping layer, and this would be an extremely difficult layer to create. I can see potential for confusion on the part of the public users regarding differences between current zoning district, current land use, and future land use if these all become required mapping layers. The public is already very confused about the difference between assessment class codes and zoning district.

31.5 Lets get all of our Deeds scanned in and indexed. Currently the only a few people in land records department has access to the Deeds online. Bayfield county has been slowly going back and scanning but the indexing has not been done.

31.6 Would LOVE to see assessor information in regards to the property, e.g, finished sq. ft (above grade and below grade), bedrooms, bathrooms, garage stalls, outbuildings, etc. Permit information attached would be great Current land use and current zoning Municipal zoning would be great (one stop shop for the entire county)

31.7 Time frame may need to be looked at for these benchmarks.

31.8 ASSESSMENT DATA: Beyond the simple valuations, it has been often requested to make building characteristics (year built, number of bedrooms, square footages, etc) available through our county systems. As you know the Realtors Association and others have been pushing for this for many years. However, we cannot get this data from the various local and private assessors in a standard format without charge. Without the cooperation of all assessors across the state, we will not be able to meet this goal. MUNICIPAL ZONING: As mentioned in an earlier comment, this could be a major effort which will require a lot of resources to collect & standardize municipal information, much of which is not in any kind of digital format. How much of this workload would fall on county staff?

31.9 The ability to provide the above suggested additional benchmarks is dependent greatly on what data the county receives from local municipalities and the county's ability to aggregate these data into its overall system.

31.10 A pdf of the PA-500 does little (see Wiredata case). It needs to be in a database we can link to the statewide parcel map for analysis. This would be huge, but counties like mine have no ability to meet this potential benchmark. It would be odd to require the county to map municipal zoning if the county is not

the regulatory authority.

31.11	i dont like the PA-500 Requirement to be posted on line... Why 1970?? these requirements need to add the language "if directly maintained within the County" or something to that effect
31.12	The State will need to mandate local assessors to provide residential property record card data to the County as at this time, we have no authority to demand or expect it to be shared. Dodge County can meet the requirement for real estate documents dating back to 1970 and the other requirements listed, EXCEPT for the requirement that municipal zoning be mapped in the county GIS. This would be very difficult, if not impossible to obtain, let alone to keep current, as this is data the county does not have access to and has no responsibility for.
31.13	If this became a requirement of WLIP, then the County would be forced to comply, but the timeline would need to be flexible and adequate resources would be necessary for compliance. PA-500: since the Towns and City have jurisdiction over this, it would be difficult to gain compliance thru withholding WLIP funds from the County. Also, the county and local governments do not want to go to countywide assessing. Recorded doc imaging has been completed back to Vol. 1. However, the contractor included confidential images, and each individual image will need to be reviewed for redaction of confidential information ... a daunting project to say the least. Document images are available online since 3/31/2006. The GIS team does not see every real estate document which enters the courthouse. We only see real estate docs which change parcel boundaries and PIN's. However, ROW information which is received in the Land Information Office is incorporated into the parcel layer. In the past year the Land Information Office and Zoning Office have collaborated to scan permits and link the images to the parcel geometries in the interactive website. Permits filed in the last year are available in this method. Zoning is scanning the most current permits pulled in each Town but have not completed this initial cycle countywide. Land use (current & future) is a local government issue. The County maintains the data for display upon request. It is possible to include the current land use into the interactive website, but no one has requested the land use to be displayed on the website. Municipal zoning is already mapped in the County GIS and displayed in various formats.
31.14	I dont think any more requirements should be applied to parcels.
31.15	"Requirement that rights of way connected to parcels be mapped in GIS" Do this mean easements? If so, attempting to show all easements is almost impossible. Some easements actually exist and there is no written record of them.
31.16	Kenosha and other counties have this information on line - as stated the zoning aspect is not one that I would recommend. The item that I believe really needs to be considered is the PA-500 record card and the transfer of assessment data. I intend to investigate a process working with an assessor and the DOR to create and distribute PA-500 information. I recently had a conversation with the DOR in which I stated that Kenosha would attempt to be a pilot county in the creation and transfer of this data source. Emergency service zones. Areas that would be covered by fire and police protection and contacts for each
31.17	Some notes on the PA-500 should not be displayed freely on the web. (Floorplans for example.) Does "Rights of Way" include easements? We currently don't map easements, we'd need to search every parcel and survey to examine for easement, descriptions of easements maybe very vague and unable to be mapped with accuracy; what about perpetual/prescriptive/permanent easement mapping or easements only assigned to specific grantees? Would we have to follow through and remove easements as they change with corrections/recorded documents?
31.18	There needs to be specific discussions on including any additional benchmark requirements for parcel data.
31.19	There needs to be specific discussions on including any additional benchmark requirements for parcel data. The items list go far beyond any current requirement and business needs to defined before anything else is added. There also need to more discussion about land use and assessed use and how they relate or don't relate to parcel data. The same is true with county and municipal zoning.
31.20	This would require our entire data model to change and in some cases, would require us to map things that we have never created before. More specifics would be needed, but this would be quite extensive. Old real estate documents in particular would be quite problematic to get into a digital form.
31.21	No comment as long as the PLSS is one of the Foundational Element layers completed
31.22	PA-500 Data – Again the property record card is the property of the local municipality, the County has no control over this piece of information. The County would have to somehow compel the local municipality to provide this to the County. What is the desired update cycle of this information? Do you want a PDF or a database format? The current form from the DOR is a PDF and is not a database. Rights of Way connected to parcels be mapped in GIS – What is this? Is this access easements? County Permit Information – Need better definition of "permit information" Rock County does not issue permits, it is done at the local level. Also it will be very difficult to connect permits to parcels as parcel numbers frequently change, how would that be maintained. Also very labor intensive endeavor. Land Use – County and Incorporated future land use maps will always overlap as Incorporated areas plan for future growth. How will you address this? Municipal Zoning – Define "Municipal"? Do you mean Incorporated areas?
31.23	A31. Municipal zoning should not be a requirement since we are not the stewards of the data. Significant investment is needed to integrate parcel and permit data. Land use (Current and Future) doesn't need to be a requirement. We have struggles to separate Land Use Planning and Future Land Use Mapping from Land Information for purposes of funding. Requiring Future Land Use maps seems counter-intuitive.

31.24	Future land use mapping could not be done in Price County as there is no comprehensive plan.
31.25	Some of these are not possible...for instance...the county does not have property record cards. The assessors have these in Shawano County. Requiring these to be provide will be an additional expense to the towns...i.e. and unfunded mandate. We don't have clear ROW information for most of the county...most of it is in dispute...this is not practical Requiring permits connected to parcels and displayed online is an expense that many may not be able to fund. Etc... If you want items like this funding needs to be increased...
31.26	We do not presently maintain those layers, and some will be very expensive to create. These may be of more value to the county than LiDAR and aerial imagery.
31.27	1) I have not had a request for current/future land use in a few years. Wood County has not updated current land use in over a decade and has not intention of doing so soon. Future Land use is spotty because the county doesn't have countywide zoning and as such didn't fully coordinate plans countywide. 2)We provide municipal zoning mapping for some munis but since there is not countywide zoning updates are infrequent. Zoning is not parcel dependent. As such it is hard to fully integrate with parcel geometry. 3)Right of way mapping is much more complicated than you might imagine. We map ROW where it is deeded or described via CSM, plats, etc. Many ROWs in the county are shown for cartography, basically just a buffer from the centerline.
31.28	-PA 500 would be nice, but need DOR to require this not DOA. -ROD would require a fee, not free -R/W as mentioned earlier will be a challenge and depends what is required would impact how well this could be accomplished. -it will take a lot more time to accomplish the previous things you asked for and beyond 2018 may not be realistic to pursue these other initiatives.
31.29	I am interested to hear how you intend to map all rights of way, and what kind of "standards" would be required.
31.30	The county does not have Property record card data. we would have to have each assessor supply that to us digitally. Real estate documents are online, but the ROD would not allow them to be free.
31.31	Some of these would present significant challenges as we do not have them in electronic formats. Example: The PA500 forms are held by the assessors and would require scanning to bring online. The data from those forms is submitted electronically in data base forms. We do not currently maintain ROW connected to parcels. Our permits are not linked to the GIS and the permits may only be attached to the parent parcel and any splits or retirements would "break" this connection. We do not have a way to maintain municipal zoning as that information is/has not been provided to us by municipalities. We are not the authoritative source of this data.
31.32	We do not use and do not plan to bring back the use of PA-500 cards. We do have all our property records listed on our GIS webpage and through our 3rd party webpage. Would this meet the requirement? As I mentioned before we do not have all permit information in a digital format so only a portion of the permits are associated with the parcels. Real estate documents are on the Register of Deeds off and the Land Information Office has no control over when or how they get the real estate documents dating back to 1970 online.
31.33	PA-500 data and municipal zoning may be beyond county control. In my opinion, current land use will be a quagmire. At the very least we need standards for content and periodicity. Land use data development is very labor intensive and subjective. I wonder what we gain over assessment code which is already available in the parcel record.
31.34	Requirements above like "County Permit Information" would need to be explained in more detail.
31.35	I think we are about half way toward 1970 for real estate documents, this scanning/indexing could be accelerated, but 1970 will likely be reached eventually even without SI money. Yes- all rights of way and municipal zoning.
31.36	I feel the examples above are items that become "deal breakers" for the county. Please remember WLIA funds are not covering all associated cost for our Land Information Office. Please be cautious that WLIA does not become another non-funded state mandate or a program that the County can not fiscally support. Please do not require a program that is not maintainable by a County with limited resources. Example: County permit information - we currently have a "paper only system" - this requirement would be a large project and consume all of our limited resources. Thus potentially stopping other "required" projects.
31.37	A31. The residential property record card data should NOT be a requirement as long as this information is not the responsibility of the County. All real estate documents dating back to 1970 can be made available online, but there is a fee for viewing Register of Deeds records. A user may not know whether or not they want a particular record until viewed. It would be a simpler process if there were fees only for recording documents but None for viewing or printing recorded documents. Door County has rights of way mapped and maintained as part of its parcel fabric process. County permit information is displayed through online Land Records parcel data but is limited as permit records are not in digital format. Land use mapping could be viewed with parcels and other layers in County GIS. Municipal zoning could be incorporated into County GIS only if each would provide their GIS zoning to County in shape file format and provide URL link or digital copy of ordinance.
31.38	NO

31.39 Would be difficult for counties to post PA-500 cards on-line unless assessing was done by county assessor. Currently all assessing in Washburn County is contracted out by municipalities. Not sure what is meant by right-of-ways connected to parcels – IMO right-of –way is one of the most difficult things to deal with as it relates to parcels. To do it properly it will require lots of time and research. County Permit mapping would be possible in areas where county has jurisdiction. The Washburn County does not maintain permit data for City and villages. Washburn County does not maintain zoning data for all of the municipalities within the county. Should not have to provide something we don't maintain.

31.40 How are you going to police Rights of Way? Some counties do not have the staff time to develop ROW's. As for PA500 data, this is not county data. You are going to need a requirement for assessors to provide this data to Counties. Also, most counties will need to redo their land records software to accommodate the additional data from assessors. How are you going to force municipalities to share their data (i.e. zoning) if they don't want to. Will munis be stuck with the cost of getting data in the correct format to share? I would like to see all real estate docs dating back to the beginning to be digital and available online.

31.41 A Rights of Way layer may be an impossibility as a lot of roads do not have anything recorded specifying ROW by fee. For La Crosse County, the parcels, for the majority, make up the ROW space and the width may or may not be accurate in places. So to require a rights of way layer, in my estimation, is impractical. Municipal Zoning might not be a possibility either as some townships were given the option of opting out of County Zoning and therefore may not be up to date with their zoning layer or may not even have a digital zoning layer. Also, municipalities for La Crosse County have their own jurisdiction for zoning and therefore the County does not get involved when it comes to municipal zoning or zoning issues. Some may not be willing to give that information up to the County and/or the County may not be willing to constantly ask for an updated zoning layer (and ditto on that some municipalities may not even have a zoning layer nor the funds/means/personnel to incorporate a digital zoning layer.

31.42 I believe the PA-500 card data should be for the individual Assessor to use and not for the public to view floor plans. There would have to be a lot of title work done to know all right-of-way and easements connected to parcels.

31.43 Again many of these requirements are unrealistic. The County as well as local municipalities don't have a need/or access to maintain many of these requirements.

31.44 We will have our hands full for a number of years with the benchmarks that are currently listed.

31.45 None of the benchmarks mentioned above should be attempted until current benchmarks are completed by all 72 counties.

31.46 With budget cuts, how is money going to be available for extra staff?

31.47 Assessment data poses a significant problem in our county and would be difficult to aggregate, as we have multiple assessing authorities.

31.48 All of the additional parcel benchmarks you have listed in the survey would be a nice addition to our land records systems. They will all take major effort and/or funding. I think it is a good idea that you are asking our users what they would like to see. Once the list is set and prioritized it will be easier to give feedback on the county's implementation problems.

31.49 The potential requirement to include the PA-500 residential property record card data on either a county or third-party provider website is well intentioned but is not directly practical. After talking with our Deputy Assessor he identified a few concerns with this approach. There can be several pieces of protected data on the form including income information. The PA-500 form used by Wisconsin Assessors may not be the same for all jurisdictions. There are WI DOR approved modifications of the form which replace the field(s) on the PA-500. In addition in the cases we are aware of the PA-500 form is not directly distributed to counties. Our Deputy Assessor did indicate the WI DOR has a Provide Assessment Data (PAD) process in place for collecting assessment sales data (https://www.revenue.wi.gov/Documents/padinstr.pdf). Collecting and distributing limited assessment data through the DOR maybe more practical that doing it through all 72 counties. However the more details that are required for data elements that are non-standard between municipalities the more complications there will be. The rest of the potential ideas for future benchmarks appear ok. However it highly depends on the details requested. For example the City of Oshkosh tracks road right of way as polygons and lines. We seek to track the jurisdiction of each section of right of way. However we do not track when each individual component of the right of way is acquired or through what means. Winnebago County also does not track that information within the City of Oshkosh. Complying with the location of the right of way should not be an issue. Complying with the right of way acquisition date and method would be very difficult.

31.50 We would love to get the PA-500 residential records into our Tax/Real Estate System. The real barrier to this is all the small Mom & Pop software providers that have created CAMA software. For this to truly work, DOR will need to mandate a standard export format that all software providers must meet. This would be very similar to DOA parcel format benchmarks process. If this is not required, each County will waste money trying to develop tools/methods to convert all their local assessors PA-500 exports into a standard schema.

31.51 Some of these layers requirements will be tough to achieve in any short time frame.

31.52 A31.I don't think the current grants allocated to our county would pay for this amount of work to be completed.

31.53 A31.PA-500s would be good data to add and helpful to many. The problem with municipal zoning is we don't enforce it or have control over it. Including it is fine but how will you convince cities/villages to provide it. Are you referring to easements of access to parcels or public road right of ways. The public road right of ways as I noted earlier have value but they are contentious and require advanced level of understanding to map properly. In some cases the determinations would end up being litigated. They would need to be determined just like property boundaries by a survey if someone wanted to argue over whether a tree is in or out of the right of way just like they do now. So they might get misused. Easements to access parcels would open up as many eyes as the parcel mapping does when people realize the fences are not their titled boundary line. You will find many easements are not what is truly used for access. Lots of cans of worms to be opened. I would also leave that to be one of the final frontiers it will result in lots of questions and fighting.

31.54 1- The Residential Property Record Card Data is typically held by the assessor for each city, village or town. This should only be mandatory if county wide assessing existed.

2- What is meant by rights of way connected to parcels be mapped in GIS? Does this include easements? Many of our parcels have vague/ambiguous non-mapable easements or blanket easements. Mapping these easements would be a monumental task.

3- More permit data is probably at the city and village level. County permit data is helpful, but more should exist in the other municipalities. I don't think the county should have to incorporate the permit data from other municipalities.

4- Mapping municipal land use data (not maintained by the county) would be difficult. Counties should not be required to do this. Who is liable if it is mapped incorrectly?

5- Mapping municipal zoning (not maintained by the county) would be difficult. Counties should not be required to do this. Who is liable if it is mapped incorrectly?

31.55 Due to limited staff and resources; I think completing all of these requirements in a single year would be next to impossible. We may be able to achieve one or two a year, but some of these requirements are beyond our control due to the fact that the towns do not share their land use map information with the county. As noted above in the survey, the current land use map simply reflects the tax code of said property so it can be derived from the parcel layer. Our ROD staff have been attempting to get all real estate documents available, but have experienced a significant setback due to lack of staffing in their office. The funds we receive would not enable our county to achieve all of these goals in a single year; especially as our staff are only able to spend a fraction of their time on land information projects (one day a week or less).

31.56 We strongly request that a County only be required to create data layers that it has a valid use for. Bear in mind that there is also a cost to maintaining every layer that is created. We currently do not have a valid use for any of the layers listed above.

Private Sector/Company Located Within Wisconsin
31.57 Rights of way would be very helpful for our work. We commonly install electric facilities in the road ROW. Easements would helpful as well. We hold easements going back many years and spend significant amounts of time researching our own easements. Being able to see easements held by other utilities would be very helpful - they may alert us to underground facilities that may not be found until locates are performed. It would also be helpful to know of general easements held by others.

31.58 Of the above, mapping the rights of way, current and future land use are most important for my work. However, in most projects, the ROW has to be formally surveyed regardless of availability of GIS data.

31.59 PA-500 data should only be required for counties under the county assessor structure.

Educational Institution
31.60 Important benchmarks for parcel data include: assessment data; PLSS data/enhanced positional accuracy including county boundary issues; right-of-way inclusion; legal descriptions; and inclusion of hydrography. Questions about what standards are to be used for address parsing also need to be determined, as well as the question of physical/site address versus USPS postal/mailing address differences.

31.61 Expanded land use fields

Q32 - OTHER COMMENTS

	%	Count
Other comments/Dream vision for the Program	47%	51
No other comments	56%	61

State Government
32.1 WisDOT General Comments: Single Statewide Repository or Layer: What provisions are part of the WLIP for acquiring and packaging individual county layers in the portals together into one layer (similar to state parcels), or at least making it easily obtainable in one place (not having to go to 72 different portals to obtain the data? This may help reduce redundant data preparation efforts across state agencies.

Importance of Lineage Metadata: Metadata on data collection practices and data quality control protocols need to be included to ensure against improper use of data and the potential to skew data analyses and decision-making. The DOT supports the State Cartographer's Office (SCO) suggestions and comments on the survey, especially the comments to change "funded" to "funded or partially funded."

32.2	This is a great survey. Thank you for asking for our feedback.
32.3	I appreciate all the efforts of everyone involved in this process!

County or Local Government

32.4	I agree with our LIO Officer. No strategic grants. Grants need to be at county discretion, and they need to be contribution based.
32.5	Drone/UAV and drone training. Be able to work from anywhere.
32.6	The WLIP is a very important piece of the funding puzzle, but it can't be the answer to every problem. Focus on what data the counties maintain, recognizing that might not be the same in each county, and do it really well. Recognize that there is also a lot of desired spatial data that are not maintained by counties and fall outside of the WLIP. Don't lump those desires into benchmarks Part of what makes the statewide parcel map a successful project is the statewide schema and the creation of a statewide layer. We should be following that model for other data layers. The good news is that you probably did the hardest one first.
32.7	This is already an exhaustive and at times overwhelming amount of requirements which I am unsure about planning for a successful outcome for completion by 2019. I am fortunate enough to be working in a county which possesses a long history (almost 30 yrs) of forward thinking Land Information leaders and a county government which has always been supportive of the County's Land Info Office's endeavors. I can't imagine being in the position that some counties are working towards completing Benchmarks 1 & 2. I understand the importance of having standards, but much of what is in this survey feels like micromanagement, i.e. OTL. What about funding all of these requirements? The beauty of this program is that it has historically generated a reliable source of funding, but it has limits just as county funding has its limits.
32.8	Everyone wants accuracy. Is "Survey Grade" GIS the next step??
32.9	I would like to see building plans entered on a system. This would be helpful for law enforcement and emergency services. Whether this would be an open data source or a closed privacy source would need to be determined.
32.10	I feel that the maintenance of the data created from BM 1-3 is more than enough to create and maintain for right now. Thank you, it's a great idea, but until you talk with the local tax payers, please don't force us to exceed the work which our grant dollars will allow us to complete.
32.11	I just ask that everyone be mindful that Forest County does not have the staff nor the funds like the surrounding counties to accomplish many of the projects thrown our way and we are grateful for Strategic funding to assist us in accomplishing the set benchmarks.
32.12	This document points to the fact that there are great expectations on what is wanted from the counties through the WLIP. A recommendation would be to leverage the expertise the LIO community to assist DOA staff in this effort.
32.13	I think the long term vision should be to have a Land Information System that streams the most current GIS data state-wide. Where data is streamed to users in the most current form. There seems to be a lot of emphasis in this plan on static data and not much on maintenance schedules. The future is in live streaming and not downloading large legacy data over and over again. I think it is a good start, but not were we want to be in 5 or 10 years.
32.14	There is a concern about the broad nature and open structure of this survey and the information that is may provide. This appears to less a survey but rather a Push Poll. This document lays out a great deal of generalizations and it is difficult to understand how it help . This document points to the fact that there are great expectations on what is wanted from the counties through the WLIP. But is also points to the fact that current WLIP funding with be insufficient to accomplish all that is listed. What are some recommendation for additional revenue sources? DOA staff should be thanked for their efforts to move this effort forward. However, it should also be recognized that DOA staffs primary task is to manage a grant program. The development of standards for the broad range of land records data outlined in this document and the understanding of the workflows used to develop and maintain the data are far beyond any one staff person. A recommendation would be to leverage the expertise the LIO community to assist DOA staff in this effort. Another, recommendation would be to leverage the existing WLIA Workgroups to assist DOA in this effort.
32.15	This is a really good effort and I applaud the amount of work going into it. Most of our issues involve our working with the county to make these complete data sets a reality, but overall, I love the idea of trying to standardize this information, as long as the state is patient with regards to the amount of work that will be needed to make this happen.
32.16	A32. The WLIP was designed to fund the creation of datasets. Over the years, many have been created. I would like to see consideration for making Strategic Initiative funding available for building applications that integrate various datasets which will lead to creating an entire Land Records System rather than a federation of disparate data layers.

32.17   I would like to see a continuation of funds to help offset the cost of software for internal use of our GIS data for other departments, we create valuable useful data and when other departments don't have the proper tools to use it it becomes less important.

32.18   Your goals are laudable but you are looking at requiring way to much with current funding levels...I barely have the staffing to maintain what I have much less adding all of or even a significant portion of the above. The requirements for LiDAR every 8 years along with Orthos every 6 virtually guarantees that I will not be able address staffing needs that would be necessary to create, maintain and post the above layers in a timely manner... LiDAR every 8 years is unreasonable (not to mention unneeded) in a rural base budget county of 900+ sq miles. If the above ideas become reality you may actually force some counties out of the Land Records Program since the $151,000 (Base Budget, Strategic and Education grants) may not be adequate to fund the requirements along with the base needs (Hardware, Software, and Labor). Out of our $100,000 base budget we only have $19,000 left for projects in 2017. The cost of hardware/software continues to go up. If we estimate and average over the next 10 years of $15,000 per year left for projects plus $50,000 strategic grant (Not guaranteed at $50,000 level) that gives us $65,000 per year Orthos = $90,000 / 5 years = $18,000 per year LiDAR = $240,000 / 8 years = $30,000 per year Leaving us $17,000 per year for creating and maintaining the above items...I need at least $60,000 per year for a position to create and maintain the above required items in addition with our existing layers...the math just doesn't work... You need to back off on some of these requirements or provide more funding. Besides requiring too much for the amount of funding it this becomes the new reality you need to enable Strategic funds to be used for maintenance activities and permanent staffing. Lastly, this seems like a lot of fine print for a requirement that could be simply stated as...Any data layers created or maintained with WLIP funds that are not sensitive in nature or otherwise exempt need to be made freely available to the public on line. Links to this data along with metadata needs to be submitted to the DOA. I know that we want to make things black and white but this seems like an unmanageable monster in the making. Plus it seems that some common sense is being bypassed...IF YOU DON'T HAVE THE FUNDS TO MAINTAIN IT PROPERLY DON'T CREATE IT! Although I do agree with most of the goals laid out in this survey, I do not feel that the funds available to Shawano County through the WLIP will be sufficient to feed this beast. Additional funding (In our case primarily for staffing) will be needed to accomplish these goals and maintain them over time...

32.19   My biggest concerns are affordability and stretching the WLIP dollar too thin. In my opinion, the WLIP is a COUNTY grant program. It should not be the Wisconsin Imagery Program nor the Wisconsin LiDAR Program. As I understand the imagery and LiDAR requirements, they would consume virtually all of my county SIG funding. That is not a sustainable model for Wood County and I suspect for many others as well.

32.20   I could not check the box 'I see nothing problematic etc" for any of the questions because until the County would see exactly what is being requested and the specs it would be highly presumptive that it would not be problematic, and therefore may put the County in a position that points back to the survey that said the County had no problem with the requirement. I feel the time to accomplish many of these items are severely underestimated. While I understand and support standardization and the push for more data sets, I am very concerned that some of these imagined scenarios may turn into underfunded mandates from the State.

32.21   Only the minimums should be dictated by the State. The grant program needs to be flexible enough to allow the local needs to dictate the creation of a data sets. As all these data sets are created ongoing maintenance of the data sets will cost $$$. Currently the County doesn't have the $$$ to fund additional data sets much less maintain all the current data sets to keep them current. The minimal number of requests Marinette County receives annually for existing data would not warrant spending any $$ on making these data sets available online.

32.22   No strategic initiative grants. Grants need to be at county discretion, and they need to be contribution based.

32.23   We would like for more funding being put aside for training and education. with more requirements being proposed, we would require more training to best utilize the data being created.

32.24   Our concerns are: -72 different formats for stored/presented data -Lack of a central data repository and uniform formatting of web sites -Requirements that may potentially lose funding source in the future, or not be fully funded now. (unfunded mandates) -Requirements that require creation of new digital information that we only currently have in paper form.

32.25   I also feel that we do not want the state to become the one stop shop for data. The state data is going to be a snapshot in time once per year and NEEDS to have a link to the County saying this is where you go for the most update data available. The state can push this stuff as much as they want but the counties need to keep the authority over the bulk of the data. They also need to realize that not all counties are the same size.

32.26   I am concerned that if the WLIP funds were to get allocated to other entities to assist the DOA with the implementation of the datasets, dissemination, management, etc and the Counties dont have WLIP grants and retained fees we will not be able to get the datasets developed or purchased in order to comply with the mandates.

32.27   I am very concerned that the WLIA program is moving in a direction that we can not maintain. We are spending more time and resources each year meeting the SI/Base Budget Benchmarks and not providing

a local public service. Please remember WLIA funds are not covering all associated cost for our Land Information Office. Please be cautious that WLIA does not become another non-funded state mandate or a program that the County can not fiscally support. Please do not require a program that is not maintainable by a County with limited resources.

32.28	A32. The State should focus on collecting standardized County data with no restrictions in exchange for providing WLIP grant funding. The State can then serve the public under its "Open Data" policy and technical services. I believe it will be much more difficult and longer process if the State requires "Open Data" policies at the County and local level, and attempts to audit and enforce those WLIP funded requirements. I am in agreement with SCO position of moving forward on a Statewide Wisconsin Geospatial Data Portal. I believe a Wisconsin portal will allow for complete, standardized, statewide data sets with a single Open Data policy for distribution services by the State.
32.29	As county datasets becomes more available to users through open data efforts, we are going to need to look harder at data consistency and quality. End users will want datasets that will work seamlessly throughout the state. Will be difficult as counties have different priorities and needs.
32.30	I would really like to see all counties get caught and on the same benchmark as far as parcels and PLSS before this program jumps off into other directions.
32.31	It may be time to consider elimination the Register of Deeds copying fees (s. 59.43(2). to make recorded documents "Open Data". I realize this opinion may not be popular with RODs, but it would make recorded documents open.
32.32	One of the benchmarks for WLIP should be to have a County Surveyor in each Wisconsin County. If we are going to allocate WLIP funds for PLSS work, a qualified individual should be in place to oversee this important work. Following completion of remonumentation projects, that qualified individual should remain in place to maintain those corner locations. This applies even in Counties that have already completed PLSS work. Many remonumentation projects to re-establish PLSS corners have taken place since the 1970s. Several Wisconsin Counties do not have County Surveyor staff to perform maintenance on these older corners. Now is the time to address and remedy this problem. A County Surveyor is an investment that pays huge dividends well beyond PLSS work. County Surveyors can be available to review Certified Survey maps and subdivision plats and answer land surveying and land ownership questions for County staff and the general public. A County Surveyor can also be available to do work for other County agencies. A County Surveyor also maintains the maps found in the County Surveyor files.
32.33	We need more staff and money to maintain the data. The maintenance of the data created with benchmarks 1, 2 & 3 is more than enough work for our current staff.
32.34	Currently, the 'strategic' initiative (SI) funding is anything but strategic. To truly be strategic in nature, these funds should be distributed to counties that are or have been struggling meet the deadlines/requirements of WLIP. The pie that is SI funds has been cut into 72 pieces. While that that appears to benefit everyone equally, it does not. Some counties receiving a piece of the SI funding pie have their very own county-made pie while others don't have staff/funding to buy an appetizer. If the DOA is to make funding truly 'strategic' they should assess all participating counties and perform land information triage and, after careful consideration, reallocate SI funds based on each county's current data, department size/budget, equalized values, land area, private/public lands, population trends, etc. Once it has been decided, by subsequent assessments/triage exercises, that all counties are on even geospatial ground, the funding pie pieces can be evenly cut. To dole out funds without paying attention to the 'haves vs. have-nots' is irresponsible and will exacerbate the frustration and further delay a high-quality statewide data set.
32.35	The Strategic Initiative and Base Budget Grants go a long way toward keeping our land records modernization program moving forward. I can't image ever getting LiDAR without it and it is great knowing we can keep ortho acquisitions on some kind of regular schedule.
32.36	I would be open to a statewide aerial imagery schedule and capture system of some type.
32.37	Not all municipalities in WI directly maintain data required for the current and/or future objectives in the Strategic Initiative funding. However there are many which do. For example many maintain GIS parcel data, perform tax listing, and acquire remotely sensed data (areas not covered by their county). In could help further the objectives of the Strategic Initiative to consider a direct or indirect process for providing funding to those municipalities. In some cases objectives may not be met without funding assistance. For example the City of Oshkosh acquired LiDAR in 2008. Winnebago County's more recent LiDAR acquisition did not include the area previously covered by the City of Oshkosh. In 2018 the LiDAR acquisition around the City of Oshkosh will be 10 years old. This exceeds the 8 years targeted by benchmark 3.3. I have participated in meetings about potential collaborative LiDAR grant funding. This funding has potential. However is seems like a longshot. At this time Oshkosh has no plans to acquire new LiDAR for this area. With our internal geospatial priorities and budget difficulties my decision to advocate for additional LiDAR acquisition is highly related to cost and alternate funding options. Although counties are the backbone of much of the geospatial data in WI, municipalities also represent a critical component especially in larger urban areas. The support for all GIS data custodians in local government is critical to the future success of the strategic objectives. In practical terms I think it would make since to encourage counties and municipalities to collaboratively work toward these objectives. If a flexible collaborative goal were added to the plan it could be beneficial. In some cases a county could provide a portion of their funding to a municipality to assist with a plan objective. In others they could create a collaborative update process for the GIS parcel data.

32.38 I would love to see a process where every County is able to "synchronize" a parcel database replica to a State hosted data store. These replicas would be setup to match the required State schema. That way published datasets could be updated and published on a more frequent basis.

32.39 A32. Your dream and vision is to be commended, but as I went through this document, the amount of work seems great. I would just comment that with a very limited staff, and our day to day volume of work, I would hope the law of diminishing returns would not set it here.

32.40 A32.We really need the funding. The rural counties cannot provide data without it. People need to understand that maintenance of the data is crucial. Sustainability will be necessary to achieve anyone's dream vision. As far as a dream program. Some people have different strengths than others. Some are technically savvy but lack technical understanding of how to read the records. Others are not tech savvy but can understand property records and properly apply intent and law. Sometimes I believe that this would all be a lot more efficient if the most qualified people were working for the state on creating and maintaining the data. You can stitch 72 counties data together but it will never be the same level of accuracy. Sometimes the answers are not easy and people rather than map things the right way, cut corners because who will know better? My point is we might get all the data but that data is going to be full of warts. The staffing is uneven from county to county and the funding, the knowledge, the power, the control, the ability, the capacity, the care, the concern will vary from one person to the next. We are stronger as one body than many but as long as this is done at the county level it will never have the consistency that many would dream about. My dream is consistency and the only way to achieve that at the county level is plenty of funding and training and stability. I think that we need to stop looking at this on a county by county basis even if that is the way it is going to get done. The contention between when things get done and frequency of data acquisition would go away with a statewide approach. The urban counties would still be able to advance and the rural counties would keep up better if things were done the same. This all should have been a top down approach with people locally doing the work and research but the purse strings and guidance from above. It would have been done a long time ago. I can see the same problems with addressing everyone does it differently what a mess. There was a lack of leadership from the top down and letting everyone do it and figure it out themselves may have allowed for some innovation but it probably cost a lot more and definitely slowed the efforts as a whole. That is just my opinion though. I am glad to see that some progress is being made whether I like all the choices or not is irrelevant. The point is that everyone keeps getting stuff done and we continue to advance our abilities. I think we should figure out what the dream is and then try to figure out how to achieve it. I don't have all the answers, I don't even have all the questions, but there are probably a lot of shared dream attributes to focus on. Lets focus on what we can agree on and leave some versatility for people to innovate and others to take time to do things the right way.

32.41 1- PLSS maintenance should be required on a yearly basis. If a county wants to use these grants for other projects then at least 4% of the PLSS corners in the county need to be maintained each year, so that every 25 years the entire PLSS is maintained going forward. By PLSS I mean corners set by the original government surveyors, not centers, etc.

32.42 Have you reviewed GIS requirements for NG911 next generation 911?

32.43 We just really want all layers to be standardized so that we have guidance on what attributes to included at a minimum. We feel that this would help the state create additional statewide layers and support public safety applications.

32.44 Idea: use the SI grant funding to acquire statewide ESRI unlimited licenses available to all counties and municipalities. Idea: automatic orthoimagery updates every 3 years provided by the State

Federal Government

32.45 Toss out the concept of getting data from counties to your desktop. In this petascale world from UAS to daily satellite imagery, no one can handle it. Not even ESRI. The demand will be daily imagery for situational awareness with on demand products.

Private Sector/Company Located Within Wisconsin

32.46 Some data collection efforts and other initiatives would be more effective and efficient if led by a statewide entity. My main example is aerial imagery and elevation data acquisition. I worked for a county that participated in WROC in 2010 (imagery and lidar) and am now working for a company that was a WROC partner in 2015, seeing the process from both sides. It's inefficient to have the vendor pursue so many contracts and partnerships. I suspect that there is great variation among the counties in contracting expertise, expectations of quality, verification of quality, and interest in the data acquisition process. I'd like to see a statewide entity with the authority and ability to manage statewide data acquisition projects, assist counties with meeting state standards, establish and maintain a statewide geoportal, and serve as an central point of information and coordination. DOA has been able to move in that direction, but I'd like to see the program become more of Wisconsin program than a county program where it makes sense to do so.

32.47 I would love to have a single site that displays the availability of datasets. I work in many counties throughout the state, and run into very different data management strategies. I like the idea of a centralized location to store basic datasets. And this could be as simple as hyper links to each county with an ordered table/list (like the Columbia County example provided in this survey). Then provided links to the appropriate FTP site/web map that allows data-downloading functionality. In terms of LiDAR and

Imagery, I've been impressed with Wood County's distribution method for their 2015 flights. It is simple, easy to understand, and the data is usable in both GIS and AutoCAD. Kudos to them for some fine work, and I recommend show casing their efforts if other Counties are looking for a standout example to emulate.

Educational Institution

32.48 • A publicly accessible geoportal with standardized data across all counties, sufficiently funded so that it can be maintained properly. • Standards for data of all types so that data from all counties can be easily integrated and used together. • A way for municipalities to get WLIP funding. • Incentives for counties to collaborate. • Bring back competitive grants to spur innovation.

32.49 Involvement of educational stakeholders.

APPENDICES:
SURVEY COMMUNICATIONS FROM SCO, WLTA, LION

Wisconsin State Cartographer's Office

SCO

Moving Forward on a Statewide Wisconsin Geospatial Data Portal

The lack of a statewide repository (or geoportal) for Wisconsin geospatial data is a longstanding problem dating back to the earliest days of the Wisconsin Land Information Program (WLIP). There have been attempts in the past to address this issue, both formally and informally. Perhaps most notably, considerable resources were expended in the late 1990's and early 2000's to develop concepts and technical next steps for a statewide Wisconsin Land Information System (WLIS)[1]. Nearly 20 years later, such a statewide *data access* system has yet to be realized.

Recently the Wisconsin Land Information Council (WLIC) passed a resolution asking the state's Geographic Information Officer (GIO) to "continue to explore a statewide repository/portal solution." Whether this advisory resolution will be backed with resources to investigate and then implement a solution remains to be seen.

The 2016 WLIP Survey, published by the Wisconsin Land Information Program on Nov. 30, 2016, touches on numerous aspects of geospatial data access in the state, including an "open data benchmark" and a "WLIP Portal" solution. The latter – essentially a tabular listing of online county geospatial datasets – is described as serving immediate needs as an "intermediate step in advance of a more comprehensive solution to the land information community's data access needs."

Meanwhile, a variety of organizations across the state are discussing data access issues or researching solutions with little coordination. These include state agencies, university centers and libraries, and professional geospatial organizations and associations. The lack of coordination reflects, in part, varying ideas about the purpose and audience for a statewide geospatial data portal.

> *"Meanwhile, a variety of organizations across the state have been discussing data access issues or researching solutions, with little coordination."*

This document is presented as a concept for a state geospatial data portal that goes beyond "immediate needs" and attempts to address some of the critical issues related to user needs for geospatial data access. This proposal tries to consider how the state of Wisconsin should invest in geospatial infrastructure for the future, in order to maximize the return on the investment made over the last three decades through the Land Information Program.

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[1] http://www.sco.wisc.edu/news/gio-and-wlis-are-priorities-for-chief-information-officer.html

Who (and What) is a Geoportal For?

Our starting point is the assertion that a state geoportal *should be designed to serve the needs of the state's citizens,* including the private sector, non-profit organizations, private citizens, educators and students, and government agencies at all levels. The purpose of a geoportal should be to provide streamlined geospatial data access to individuals and organizations that can use the data in ways that expand its utility, thus enhancing return on investment and demonstrating the value of and need for quality geospatial data.

Focusing future geoportal efforts on the user – rather than the data producer – necessarily focuses attention on the needs of the user community, including ease of discovery, access, and use. This underscores the importance of usability as an essential element in geoportal design. A statewide geoportal cannot be effective when viewed merely as a "checkbox" to fulfill an administrative requirement.

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This focus on usability has implications for the design of a geoportal. There are numerous dimensions to be considered, including the completeness and quality of metadata, the ability to perform searches by keyword or geographically, a degree of standardization in data format, consistency in interface design and system behavior when accessing different datasets, etc. In short, hosted data must be curated, its metadata must be created and managed, older versions of datasets must be archived, spatial footprints and keywords must be created, and so on. The ability of users to effectively make use of the data is dependent on these characteristics.

Exposing all WLIP-funded data to the public – as proposed in the 2016 WLIP Survey – is a worthwhile future goal, but there is little to be gained by the exercise if users cannot make use of the data effectively. Providing access to all of these datasets without considering quality, metadata, completeness, and standardization will inevitably cause confusion. We cannot expect the increasingly heterogeneous user community to adopt and accept the terminology and logic of the geospatial community. If we really want to make our data usable and expand the breadth of geospatial data use in the state, we need to make an effort to communicate with users in ways that they will understand.

More Than a Table or List

Even an initial solution to a statewide geoportal needs to be more than just a table or list of datasets available online. An "open data benchmark" that can be achieved through a multiplicity of access options, websites, and formats will not provide users with the capabilities they need to be successful. Once this solution is put in place there will be tremendous inertia associated with improving it, since data producers will have invested time, energy and resources in its development. It will be hard to move toward a more managed solution; hence it makes sense to have this managed solution in mind as we develop the first iteration.

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Rather than asking data producers to deliver their entire warehouse of data at once, we should – in consultation with the user and producer communities – develop priority datasets (PLSS? addresses? road centerlines?) and invest in these datasets to ensure they have decent metadata, are discoverable, and are adequately managed and curated. This approach will not only ensure that priority datasets will be of high quality and high value to the user community, but will also reduce the amount of extra "busy work" that local data producers (i.e., the counties, primarily) will need to do to assemble and release their entire repository of data.

"We should prioritize the development of and access to the most important layers that impact the greatest number of users."

Simply stated, we should focus on quality, not quantity. We should prioritize development and access for the most important layers that impact the greatest number of users. Other, less critical, layers can be phased in over time. We should spend time up front to ensure that data is as consistent as possible. We do not need to have complete standardization of data layers across counties to begin, but we should be moving in that direction.

We also need to distinguish between open data benchmarks which deal primarily with policy issues, and a statewide geoportal which the WLIP has identified as a separate area of investigation for the GIO. Meeting an open data benchmark will not solve all data access problems.

Leveraging Existing Resources

It also makes sense for us to leverage existing data access initiatives and tools to develop a statewide portal in the most economical, cost-effective, and timely manner. There are several key assets already in the state, including the **Robinson Map Library**, which has developed a working repository of county geospatial data in the form of GeoData@Wisconsin and is also a partner in the Big Ten Academic Alliance Geoportal Project[2]; **WisconsinView**, which has been hosting large-volume raster imagery and LiDAR-derived DEMs for many years; and the **Legislative Technology Services Bureau** (LTSB), which maintains a variety of electoral and administrative boundary datasets, hosts the statewide parcel layer, and provides software-based services to update geospatial data. These are three examples of possible partners in a statewide repository project, and there may be others as well, such as the geospatial data libraries at UW-Milwaukee and other UW system institutions.

In leveraging these assets, we should define clear roles for each group to avoid duplication of effort and focus on each group's strengths, with the ultimate goal of providing data access capabilities that meet the needs of users throughout the state.

For example, the Robinson Map Library might focus on vector data cataloging, metadata, discovery and access, and curation and archiving, while WisconsinView would more naturally focus on raster data. The LTSB could serve as the ingest point for local data, perhaps also developing validation and QA tools, and assist with standardization and integration.

Appropriate funding will be required if a successful geoportal is to be developed. The level of funding does not necessarily need to be large if we set our sights appropriately and scale the effort over time by focusing on priorities.

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[2] https://geo.btaa.org/

Next Steps

Who should lead the coordination and development effort to create the geoportal? According to Wisconsin Statute 16.967(3), the Department of Administration has the clear authority to lead the development of a statewide geoportal, presumably in collaboration with other organizations and agencies.[3]

Some suggested next steps for the DOA and the broader community are as follows.

1. DOA needs to identify a champion for, and then establish a formal project to begin work on the geoportal.

2. DOA should develop a stakeholder working group to provide guidance on the development of the geoportal. This could be achieved via a subgroup of the WLIC.

3. The working group should initially focus on assisting DOA with developing short- and long-term scopes of the project, and mostly importantly, identifying critical stakeholder needs.

> *"[The Department of Administration] shall direct and supervise the land information program and serve as the state clearinghouse for access to land information."*
> *s. 16.967(3)*

4. The working group should not focus on software and technology until a later date.

5. DOA should be prepared to invest financially in moving the geoportal project forward.

6. The geoportal project should start small, tap into existing resources, and grow incrementally over time as dictated by needs of the user community.

As a practical matter, the SCO believes that enhancing access to geospatial data is a critical activity for the state, and we are willing to commit resources and be part of the solution. We are willing to work closely with the Department of Administration in whatever role that agency, the Land Information Council, and the community at large deems appropriate for us.

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[3] https://docs.legis.wisconsin.gov/statutes/statutes/16/VI/967/3

WISCONSIN LAND TITLE ASSOCIATION

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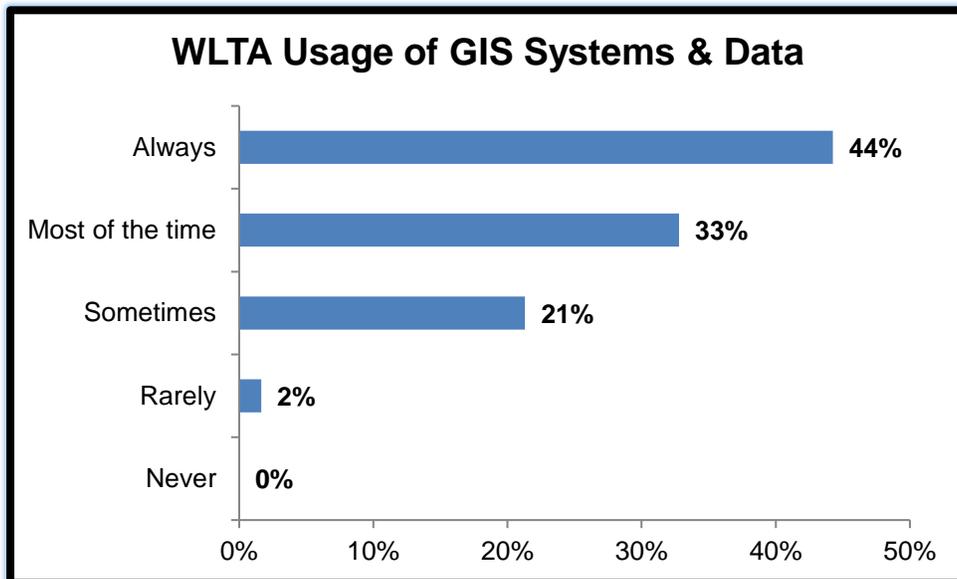
1/20/17

Dear Mr. Herreid,

The Wisconsin Land Title Association (WLTA) reviewed the WLIP issued survey and noted that the primary section that applied to our membership was that of the types of data our organization would like to see represented in a statewide land information database or portal. As such, we adopted a survey for our members to obtain this information and report back, so the title industry user needs could be considered in the design of such a system.

The WLTA then administered an adapted survey to the membership on January 16, 2017 with a deadline of January 20, 2017. A total of 61 respondents completed the survey and the questions, and results, are outlined as follows:

Survey Results:

Question 1:

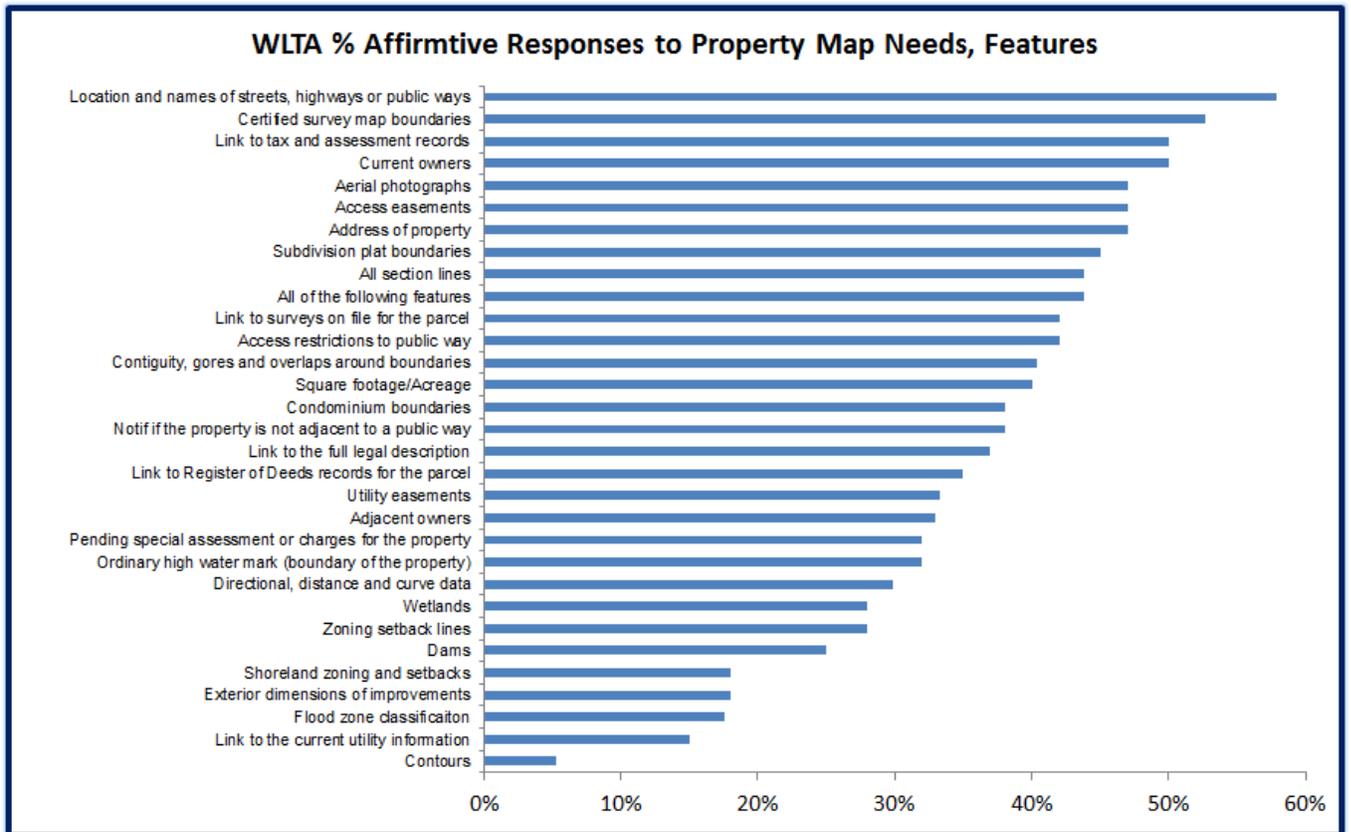**In searching and examining a title file, how often do WLTA members review the Geographic Information System (GIS) maps and information?**

WLTA Usage of GIS Systems & Data

Category	Value
Always	44%
Most of the time	33%
Sometimes	21%
Rarely	2%
Never	0%

Question 2:

If you are using GIS Maps and information, which map features and layers would you like to see?

Chart of Responses:

WLTA % Affirmtive Responses to Property Map Needs, Features

| Feature	Approx. %
Location and names of streets, highways or public ways	~58%
Certified survey map boundaries	~52%
Link to tax and assessment records	~50%
Current owners	~50%
Aerial photographs	~47%
Access easements	~47%
Address of property	~47%
Subdivision plat boundaries	~45%
All section lines	~44%
All of the following features	~44%
Link to surveys on file for the parcel	~42%
Access restrictions to public way	~42%
Contiguity, gores and overlaps around boundaries	~40%
Square footage/Acreage	~40%
Condominium boundaries	~38%
Notif if the property is not adjacent to a public way	~38%
Link to the full legal description	~37%
Link to Register of Deeds records for the parcel	~35%
Utility easements	~33%
Adjacent owners	~33%
Pending special assessment or charges for the property	~32%
Ordinary high water mark (boundary of the property)	~32%
Directional, distance and curve data	~30%
Wetlands	~28%
Zoning setback lines	~28%
Dams	~25%
Shoreland zoning and setbacks	~18%
Exterior dimensions of improvements	~18%
Flood zone classificaiton	~17%
Link to the current utility information	~15%
Contours	~5%

*Note Scale max. is 60%

Table of Responses:% of WLTA respondents that would like to see the following data

Property map features and layers	% Responses
Location and names of streets, highways or public ways	58%
Certified survey map boundaries	53%
Current owners	50%
Link to tax and assessment records	50%
Address of property	47%
Access easements	47%
Aerial photographs	47%
Subdivision plat boundaries	45%
All of the following features	44%
All section lines	44%
Access restrictions to public way	42%
Link to surveys on file for the parcel	42%
Contiguity, gores and overlaps around	40%
Square footage/Acreage	40%
Notif if the property is not adjacent to a public way	38%
Condominium boundaries	38%
Link to the full legal description	37%
Link to Register of Deeds records for the	35%
Utility easements	33%
Adjacent owners	33%
Ordinary high water mark (boundary of	32%
Pending special assessment or charges	32%
Directional, distance and curve data	30%
Zoning setback lines	28%
Wetlands	28%
Dams	25%
Exterior dimensions of improvements	18%
Shoreland zoning and setbacks	18%
Flood zone classificaiton	18%
Link to the current utility information	15%
Contours	5%

Question 3:

Do you believe that increased use and features of GIS mapping will have a positive or negative impact on the Title Industry and/or your business?
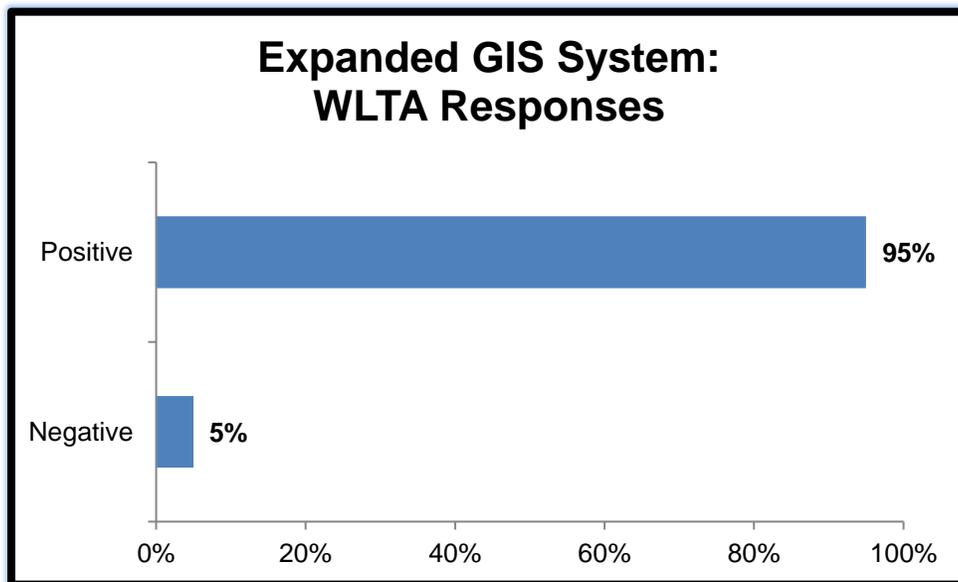
As you can see, our members feel a statewide parcel database will have a very positive impact on the title industry overall. One concern expressed in the comments portion of the survey is the accuracy and reliability of the GIS property maps and data, an effective date of the last update and/or other assurances of accuracy would be helpful to inspire confidence in our members' use of a statewide database or portal.

The WLTA appreciates the opportunity to weigh in on our property data needs. Please advise if you prefer this data in a different format and/or entered directly into the survey or feedback forms.

Thank you for your consideration and please feel free to reach out to WLTA Executive Director, Karen Gilster with any questions (contact information above).

Sincerely,

Duane Wunsch

WLTA President

December 15, 2016

State of Wisconsin - Department of Administration
Peter Herreid – WLIP Grant Administrator
Division of Intergovernmental Relations
101 E Wilson St, 9th Floor
Madison, WI 53703

Dear Peter,

The Land Information Officers Network (LION) appreciates the opportunity to provide comment regarding the recent WLIP Survey. The development of statewide standards has been something that the land information community has been requesting for many years. More specific comments on the various sections of the survey are best handled by County Land Information Officers. However, the LION leadership would like to provide some general comments on the survey.

We understand that DOA staff is looking to collect information to help them better understand the issues related to the various datasets and policies identified in the WLIP Plan. However, LION is concerned that the open/free form nature of the survey may not provide information that is helpful. There is also concern that the goal to complete work by the end of June for all of the items listed is not enough time. Any one of the items mentioned in the survey could easily take 6 months to develop a meaningful state-wide standard.
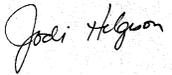
Referencing aerial imagery and terrain data, there are well developed standards that have been created by the industry and federal government. The survey does point to some of those standards and provides a good basis for creating a WLIP standard. Working with the user community the development of base standards for Wisconsin of these two datasets can easily be accomplished by June 2017.

Open Data requirements continues to be an area that needs more consideration. LION does support simplifying the data exchange from government to government, but the survey suggests something much larger with requirements that would be difficult for some counties to meet.

Land Information Officers Network, Wisconsin

A central repository is another area where LION feels there needs to be clarification as it appears that this role would be pushed back to the counties.

LION is willing to work with DOA staff to address these and any other issues. We believe we can provide insight that others may not since we are the ones who are developing and maintaining the data. Once you receive and analyze the survey results, please contact us. We are anxiously awaiting the results.

Sincerely,

Jodi Helgeson
LION Chair