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e States Responses and any comments added to # questions.	CONTACT PHONE#/FAX # EMAIL ADDRESS	1. Are differing location referencing methods in legacy databases are a current area of concern in your State?	on-going to address this	3. Is your state aware of the LRS model developed through NCHRP 20-27 and the work of several lead states who have implemented variations of this model?	4. Would you be interesting in receiving information via webinar about best practices from LST states and the benefits they have seen?	5. Might there be an interest in several LST members visiting your state to share their experiences in implementing an LRS or to review your situation and offer suggestions for your consideration?	6. Is there some other type of assistance from the LST that would be beneficial to your state?	7a. Who are the potential business and techinical champions in your state?	7b. Who is the sponsor or high level decision- maker with authority to allocate budget and direct an enterprise-level program?
	Danny Manley Jeff Brown	No	No	Yes	Yes	No	No	None known	None known
COMMENTS ALASKA	334-242-6585 Kerry Kirkpatrick-GIS-T	Not Really No	Not Really No	Yes	That would be of some assistance Yes	No	I can't see any need for assistance at this point in time No	Jack Stickel	Jack Stickel
COMMENTS	907-465-8957 kerry.kirkpatrick@dot.state.ak.us					But may be interested after listing to webinar	But may be interested after listing to webinar		907-465-6999
ARIZONA	Mick Cseri	No We currently use our Arizona Transporta			No	No	Yes		
COMMENTS	602-712-6171 mcseri@azdot.gov	referencing system. It's the single source in order to spatially reference anything signs. ATIS can work with data coming to	from crash records to the location of	DOT, then yes.			Additional resource funding for CPM/HPMS		Rakesh Tripathi, Director, Multimodal Planning Division, ADOT (602) 712 8143
	Sharon Baker	intersection/offset, or crash data based	d off a known reference marker (e.g.						
ARKANSAS	Mark Bradley	Yes	Yes State Highway LRS has been in	Yes	Yes	Yes	Yes She would like to send someone their road		
COMMENTS	501-569-2205	Somewhat, Solving road log inventory and HPMS issues by developing an LRS for city and county roads. 75% complete with this effort.	place for 10 years now. County and City LRS will be merged in. They	Tried to copy it the best they could. Can not hire a consultant. Trying to emulate Kentucky and Iowa work. They are confident in what they have deleloped.	Always	That would be wonderful. She would like to show someone what they have done and discuss it with them.	log and LRS and have someone map it. Using GeoMedia and concerned about need to fit it all into Arc for HPMS. Arc needs a single use id and they have several in their system that have to map to one. Very interested in experts looking at their system.	falle. Net going to have perfect topology to most LIDMC	
	Oscar Jarquin Lead State Team Rep 916-440-0552								
	oscar_jarquin@dot.ca.gov Tami Lang	Na	Nia			Na	Na		
COLORADO	Marv Koleis	No	No		Yes Our needs are currently set, but would		No		
COMMENTS	303-757-9811 marvin.koleis@dot.state.co.us				be interested in staying in contact for anything having to do with best	r			
CONNECTICUT		Yes County - Route - Milepost and State	No	Yes	Yes	Yes	Yes Assistance with standardizing roadway	Technical: Jim Spencer	Sponsor: Planning Director
COMMENTS		Route Milepost. Possible need to include street name and address.	e				networks for HPMS submittal, TIGER roadway, etc.		
DELAWARE COMMENTS									
FLORIDA	Pat O'Rourke, Mgr./GIS Support Section	NO	No	No	Yes	No	No		
	Transporation Statistics Office	Currently the FDOT LRS and all associa ESRI ArcINFO workstation environment.						Jared Causseaux (Best point of Contact)	
COMMENTS	850-414-4732 paul.orourke@dot.state.fl.us	RDBMS) environment. Primary element routes with built-in measures. Busine through domains or application extensio things as route cons	e ESRI ArcSDE (with Oracle as the nts of the model are arcs, nodes and ess rules will be incorporated either ons and customizations to handle such	The representative I spoke with indicated tha the NCHRP 20-27(3) work had not been a topic of conversation at FL DOT.	t There was interest expressed in attending a webinar to learn about other states' experiences and best practices			(Statewide Level) - Richard Butgereit - GIS Administrator/Florida Div Emergency Mgmt Steering Committee (Business or Tech Champion) Information regarding Florida's Strategic Plan for Statewide GIS Coordination see (www.floridadisaster.org/GIS/CAPGRANT)	
GEORGIA	Teague Buchanan	Yes GDOT has a route milepoint/milepost Li	Yes	Yes NCHRP 20-27 was released ages ago with	Yes	Yes	Yes	There are no champions beyond GDOT as an agency a	
COMMENTS	tebuchanan@dot.ga.gov	the schema. The GIS route milepo Oracle/ArcSDE. The tabular and spa support dynamic segmentation and even	the business logic is being applied to bint/milepost LRS is contained in tital data are manually reconciled to nt mapping of roadway characteristics	reported difficulty in agency implementation/support, albeit vendor system (Exor) were more favorable. What has changed?			See attached Comments	the state level. The business case has been clearly stated within GDOT and the database development is being implemented by the Office of IT Applications and the Office of Transportation data. GDOT is currently in a state of mass reorganization and the budget/future is	New efforts would require budgeting and executive support from our Commissioner.
	Goro Sulijoadikusumo 808-587-1839	supporting HPMS reporting. Potential ne	Yes	Yes Familiar with Iowa, but seems more than	Yes	Yes	Yes Lane modeling, ramps. Promoting open	quite uncertain for projects and programs.	
COMMENTS IDAHO	gogo_sulijoadikusumo@hawaii.gov Brian Emmen	Absolutely. Yes	Yes	Hawaii would need Yes	Yes	Yes	standards for HPMS reporting No	Local Hawaii FHWA office. No response	Local Hawaii FHWA office. No response
COMMENTS	208-332-7889 Brian.Emmen@itd.idaho.gov	We have a number of referencing methodoligies as well as an official linear reference system	We have just begun a process to evaluate the needs for linear r referencing and to review the options for replacing our current system.	In talking with some other states, I was made aware of the LRS model that has been developed in Iowa and of other states that are working to implement systems similar to the one in Iowa.	Abrams and Steve Kadolph and have requested they keep me posted on th progress with their system	systems and identified our needs, we may	At the current time, I cannot identify any additional assistance		
	William Oesterreich Eric Harm Amy Schutzbach Curt Reynolds	Yes	Yes	Yes	development. Yes	No	Yes	Mark Kinkade, IDOT CIO (Business Champion/enterprise program direction	Mark Kinkade, IDOT CIO (Business Champion/enterprise program direction
COMMENTS	217-524-6532 217-785-2392			We are aware of the NCHRP 20-27 and some work from other states.		Not at this time	We would like to maintain communications with the LST for future development efforts in	Technical: Joel Bump & Melisa Shaw	IT Director & Planning Director
		Yes	underway. It is not "on going". Yes	Yes	Yes	No	Illinois. No		
COMMENTS		County-Route-Milepost, State-Route- Milespost, GPS	Utilizing EXOR to implement customized solution.						
COMMENTS	Brian Logan 785-296-4899 785-296-8168 (fax) brian@ksdot.org	No Not much. Our LRS effort has standardi: common set of location referencing. W referencing schemes. We know what to see sufficient benefit to offset the	Ve have a method for resolving other o do; though some data holders do not		Yes Best practices would be interesting. We are aware of the benefits.	No We have established an LRS that works. There is no minor improvement that would be worth uprooting the current LRS from the main database and all peripheral databases that synchronize with it. The probability and scope of any improvement would have to be	No	The State of Kansas has a GIS Policy Board that involves all levels of government and local utility companies. Brian Logan is a member of that Board and his staff is active on their Technical Advisory Committee with such activities and Imagery for the Nation, Transportation for the Nation, LIDAR and Elevation Subcommittee etc. KDOT has a Geospatial Enablement Committee that reports to our Executiv IT Committee. GIS is housed in Planning and works cooperatively with our CIO.	
KENTUCKY		Yes	Yes	Yes	Yes	spectacular. Yes	Yes	Techical: Will Holmes	Sponsor: IT and Planning Directors
COMMENTS LOUISIANA	.lim Mitchell	County-Route-Milepost, State-Route- Milepost, Street name and Address	Utilizing EXOR Yes	Yes	Yes	No	Funding		
COMMENTS	225-379-1881	Developed One LRS and stock to it. Currently it is a single Link Representation. Control Section, Loc Mile not Good Link to Route-Mile.	Project to build Public Roads Base. Map Based on Updates to Tiger Data.		Sure, Why not	Not at this time	NCHRP 20-27, is it all or Nothing? Don't have routing, need to retrofit, how? Based LRS ID on exisiting control section created coding. 18 character code, good to see how others approach. In particular, how are ramps dealt with? (Louisiana ID's remaps	Planning depends on IT, Pvmt Mgmt, Asset Mgmt and Maint Mgmt Darryl Mack - 225-379-1283 Lead in Mapping & Planning (build & maintain LRS)	
							with a Type Code Right or Left, etc.) Using sequential # system driven by Inventory will plug into Asset Manager		
MAINE	Thomas Marcotte 207-624-3183	No	Yes Looking to adding a route-X/Y	Yes	Yes	Yes	No		
COMMENTS	thomas.marcotte@marine.gov http://megis.maine.gov/users.asp	but looking at changing from 1 form of linear referencing to adding route-X/Y	method for data collection and need to integrate with exisiting LRS				Nothing at this time.	Unsure at this time, undergoing re-organization	Unsure at this time, undergoing re-organization
MARYLAND	Neil Pedersen/ Richard Woo	Yes (1) Two ID's/ NI EID 13 Character	Yes	Yes	Yes	No	Not sure	Neil Peterson/Greg Slater Michel Sheffer	Governor O'Malley
COMMENTS	410-545-5537	 (1) Two ID's/ NLFID 13 Character (2) 32 Character Route ID used for HMIS & Fed. Submition 	One LRS / Education on New Route	Predecessor developed this and it was based on Model	Midght help them to know if there is something they could do better.	Probably Not	Webinar might help. Not looking for something different.		Need new addressing system for LRS using County Route Mile Posts
X MASSACHUSETTS COMMENTS MICHIGAN COMMENTS	Mark Berger 617-973-7340 mark.berger@state.ma.us	NO	NO	NO	Yes	Yes Possibly.	Yes Possibly assistance related to data shifts from roadway changes (alignments, etc.)	Mark Berger	Mark Berger
MINNESOTA	Dan Ross (GIS-T) Matthew Koukol	Yes	Yes	Yes	Yes	Yes	No		
COMMENTS	(Section Director) Jonette Kreideweis (TDA Office Director	Mn/DOT has initiated a RFI to see the a be candidates for a future effort for a ML will begin with replacing the system t Mn/DOT (Route and Reference Point).	RS/TIS replacement effort. This effor that maintains the primary LRM for	t	We have been in contact with Iowa DOT regarding their LRS and contact shortly for clarification on several issues and possible pilot efforts.		None that we can think of at this time	The current effort has identified MnDOT Division We are working on getting funding from the legislatu Kreideweis, the office director of the office We are working cooperatively with our	ure for this effort. LRS Business Lead is Jonette with the GIS and current TIS application.
COMMENTS	Ray Barksdale or Randy Barrey 601-359-8206	Yes	Yes	Yes	Yes	Yes March, April 2009	Yes Documentation	Ray Barksdale	Ray Barksdale
MISSOURI	Arnold Williams or Mara Campbell	No Went through big enterprise wide LRS	No	Yes	Yes Their system is so different. Would	No	No	Not really high level champion, Arnold is the techinical champion	Same as question 7a.
COMMENTS	573-751-7012 Marlin Sanders	called TMS (Transportation Managemer	nt Systems). There is still a little bit of	Vaguely	consider sitting in on it.				
COMMENTS	or Sue Sillick 406-444-9294	Yes	Yes	Yes	Yes	Yes 6 to 8 months needed for them to be ready	Yes Mid-tier ESRI interface	Marlin Sanders, Chair Steering Committee	
NEBRASKA COMMENTS	Rose Braun 402-479-3696	No	No	Yes	Yes Always interested in what others are	No Not necessary	No Not at this time.		Division Directors, Names not volunteered
NEVADA	Rose.braun@nebraska.gov Eric Warmath	No	Yes Kind ofWe have a solution (more like temporary) but it is not user friendly, is over complicated, inflexible as well as being entirely to software vendor specific.		doing and best practices. Yes	No No	Yes	Eric Warmath	
COMMENTS	775-888-7265 ewarmath@dot.state.nv.us	Not really too many. Our preferred methond of locaing most things in X,Y,Z.	Unfortunately the software part is most difficult since we are migrating	when it is not always the correct solution to some problems.	d Sure. Knowledge is always good. If nothing else it makes you aware of things to avoid.	Probably not at this time due to the software training ongoing for the new software and the work focusing on finishing our Right of Way Project.	A detailed list of "things that did not work as expected: and "when you do this, bad things happen" You know what I mean.	money in their budget since the state is undergoing a serious financial crisis, trying to avoid layoffs and cutting services across the board 14%. It will be at least 2 years before any serious non-construction or maintenance activities occur at NDOT and that includes IT type things like this	
Nevada - Continued	Lawrie Black	Yes	solution or a software solution. Yes	Yes	Yes	Yes	Yes	Eric Warmath and Lawrie Black	

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e States Responses and any comments added to # questions.	CONTACT PHONE#/FAX # EMAIL ADDRESS	1. Are differing location referencing methods in legacy databases are a current area of concern in your State?	2. Do you have a current efforts on-going to address this concern?	3. Is your state aware of the LRS model developed through NCHRP 20-27 and the work of several lead states who have implemented variations of this model?	4. Would you be interesting in receiving information via webinar about best practices from LST states and the benefits they have seen?	5. Might there be an interest in several LST members visiting your state to share their experiences in implementing an LRS or to review your situation and offer suggestions for your consideration?	6. Is there some other type of assistance from the LST that would be beneficial to your state?	7a. Who are the potential business and techinical champions in your state?	7b. Who is the sponsor or high level decision- maker with authority to allocate budget and direct an enterprise-level program?
	c 775-888-7206 Lblack@dot.state.nv.us	LRM's are the basis on which we locate	workflows to integrate street centerline files into the GeoTrans model. Currently we are working intensely with INTG to improve reliability and stability, so that we can publish several model	See Prior Answer. My understanding is that Geotrans came directly out of 20-27 -2. (more focused on LRS) See Phil Hardy's - of INTG - presentation attached. Phil is the main developer of the GeoTrans Model and its subsequent Maintenance tools. Routing currently not priority for NDOT – too much maintenance work/overhead. NDOT is focused on LRS maintenance.	maintenance of mllrs, and development of tools, eg conflation and Integ of new attrib (Transportation Mngr and Fusion); Updating of event and linework geom. and networks; and Temporal/Timestamp aspects		Some type of regular update on each states problems and successes with using LRS. Would like experience on management of Irs for segmented Divisions especially relating to a stds/policies approach. Enterprise Process is an issue here. What should be the policies, and roles of each div in support of Irs? Source centerline data – TIGER or county/city sources?, Do others have legal issues on using commercial data such as Tele-Atlas and Navteq? Are local govts collaborating to automate the integration of datasets (As in WSDOT)?. Is xml used to update networks. What is the future direction of LRS at Director/Asst Dir. level?	I hope that would be us! (Safety Engineering). Our SMS is funded through NDOT and FHWA. Executive level support/sponsor buy in will be key.	We need a Director level authority to allocate budget for Irs, and develop a Strategic plan for "Enterprise LRS".
NEW HAMPSHIRE COMMENTS NEW JERSEY	Dennis Fowler 603-271-3344 Andrew Rowan	Yes	Yes	Yes	No	Yes	No	No rosponso	No response
	609-633-9100	There is some concern	NJDOT has had some success in converting differing location	NJDOT/GIS is aware of the NCHRP 20-27	Not at this time	NJDOT is always interested in emerging	Not at this time	No response	No response
	David Fletcher Lead States Team Rep		referencing to the departmental standard.			technologies and business practices.			
COMMENTS NEW YORK	fletcher.d@att.net Kevin Hunt								
COMMENTS 'http://w	518-485-7152 khunt@dot.state.ny.us /www.nysgis.state.ny.us/outreac oswho/whoalpha.cfm?AlphaInde x=H)'								
X NORTH CAROLINA L COMMENTS	Janet Lowe Lead States Team Rep 919-707-2153								
NORTH DAKOTA	jolowe@ncdot.gov Gerald Kautzman rald working in Planning and	Yes	No	No	Yes to see what lowa and other are doing	No	No		
COMMENTS Progra initial te	gram Delivery. He was on the team involved in development	but the DOT IT folks seem to be able to manage these to some extent.			to see what lowa and other are doing to maintain an MLLRS and how it is benefiting the departments.	At this time, not necessary	Not that Gerald could identify.		Transportation Program Deputy Commissioner
X COMMENTS		Yes County -Route-Milepost, State-Route- Milepost	Yes Utilizing Intergraph's Geo	Yes	Yes	Yes	Yes LRS standard adobped by other Federal	David Blackstone	Currently Vacant
OKLAHOMA	.Blackstone@dot.state.oh.us Jay Adams	Milepost No	Transportation Model No	Yes	Yes	No	Agencies: USGS, Census, Etc Yes	Jay Adams Jay is the GIS Coordinator for the DOT, they maintain	Jay Adams
X COMMENTS	GIS Coord.	All of Oklahoma DOT uses a single unified LRS which was put into place in the 1960s and simplifies life for Jay immensely. The system is based on a county control and mile point system.		they are aware of the 20-27, but do not need a data model to that degree of sophistication.	ODOT is always interested in seeing and hearing what other DOTs are doing with the data for their network.	Not necessary, but GIS-T is a great opportunity for DOT folks to network and discuss current and future issues regarding transportation and GIS.	Jay may spend some time to see if there are spatial SQL scripts that may benefit ODOT.	data on about 120, 000 centerline public road miles. The LRS they maintain is only for the state's systems about 13, 000 miles. The data is stored in Oracle Spatial and they use LDMX and a schema similar to tha to lowa's.	
	Dennis Scofield	Yes	Yes	Yes	Yes	Yes	No	Transportation Data Section Managers: Dennis Scofield, Robin Ness, Heather King and Section Manager: David Ringeisen	TDD Administrator: Jerri Bohard
	503-986-3156 nis.j.scofield@odot.state.or.us J. Michael Long, PE	Yes	Pilot project to integrate use MLRS Yes	Our pilot is 20-27 compliant Yes	Yes	Yes	Unknown at this time No	Mike Long and Frank DeSendi	Jill Reeder, CIO
X COMMENTS		same LRM, new construction uses a stationing method that is not transferrable, local federal aid inventory mimics the LRM, but is not field measured and is not used to locate crashes, and addresses are geocoded through TeleAtlas license, but are not associated with the state roads. Crash ocations and highway occupancy permits are the driving forces behind address geocoding on state roads.	A Linear Referencing Management System (LRMS) study and the requirements report were developed to examine feasibility and need. The effort has stalled somewhat because of budget and IT planning.	I am aware of NCHRP 20-27 work completed at Iowa DOT through involvement at the GIS-T Symposium and professional contacts.	Pennsylvania DOT has acknowledged the value in a multi-level LRS. PennDOT would be very interested in an opportunity to see and hear about best practices in a multi-level LRS environment.	PennDOT would be very interested in an opportunity to see and hear about best practices in a multi-level LRS environment.	s Not at this time, Thank you		
COMMENTS		NO	NO			Ne	Ne		
X COMMENTS		NO SC just recently (2005) upgraded their s suite of software to maintain it. They als transportation management system tha heavily inves	o are using a web-based information at was written by them, and they are			No They would be interested in interaction with respect to seeing what other organizations are doing, but they aren't really interested in assistance at this time.	No	Angela Hance with Road Inventory, Todd Anderson (PM for ITMS) Bill Beck, Assistant Director and chief of Road Data Services.	Angela Hance with Road Inventory, Todd Anderson (PM for ITMS) Bill Beck, Assistant Director and chief of Road Data Services.
SOUTH DAKOTA	y Erickson, Rock Hook, Roger Brees	No not on the state system. Regarding all	Yes	Yes	Yes	Yes	No		
with th	the State Hwy system in their (30+ year old mainframe) with	other systems, the South Dakota DOT does not work with these and has no issue with them right now, but they are looking to the future to deal with the other systems.	planning stages now.	they have heard some of what lowa has as a MLLRS.	they would be interested in what other states are doing to address their LRS issues.	Maybe in the future as they progress with their planning to expand to the all systems.	Not at this time – although it did sound as though they were going to be involved in a HPMS web conference with several other DOTs and Iowa was among the other DOTs.		Deputy Secretary
TENNESSEE	Kim McDonough Sherry J. Hankins	No	No	Yes	Yes	Yes	Yes	William (Vic) Mangrum, IT Director Kim McDonought, IT/GIS Coordinator Jeanne Stevens, Director of the Long Range Planning Division	William (Vic) Mangrum, IT Director Kim McDonought, IT/GIS Coordinator Jeanne Stevens, Director of the Long Range Planning Division
	herry.Hankins@state.tn.us	Not really. We have long/lat as well as lo Information Management Sys		Apparently so, but I am not sure to what exten we understand it. I am investigating further.	Possibly once we have had a chance to really study the LRS model developed through NCHRP 20-27.	Possibly once we have had a chance to fully study the LRS model developed through NCHRP 20-27.	Are you dealing with the direct import of local street inventory into a statewide database such as what is being developed by the WaTrans TPF? What about the consolidation of address based and LRS based attributes onto a common geometry?		
COMMENTS UTAH	Chris Glazier		No	Yes	Yes	Νο	Yes		
X COMMENTS	Chris Glazier 801-965-4381 cglazier@utah.gov	This has been resolved as far as the uniform linear address, but not the		165	Tes	No Not at this time	Yes Organization and Staffing	Craig Hancock, CHANCOCK@utah.gov	
VERMONT X	Jonathon Croft	conversion to X/Y. No Not Really, only issue is non-std route	Yes Have techniques to solve our	Yes	Yes	No No much benefit since they have mature model.			
COMMENTS	802-828-2600	codes	problems			Might consider NCHRP 20-27 design in the future.	moving towards a similar model would could then drive how HPMS is reported.	Jonathan Croft	Jonathan Croft
COMMENTS WASHINGTON	Mark Finch	Yes	Yes	Yes	Yes	Yes	Yes	John Bower Ron Cihon (CihonR@wsdot.wa.gov) Mark Finch	
X COMMENTS F	360-570-2369	Developing Business requirements, ESR coming in to show them. Al Butler (contra Package proposed to legislature to replac the TRIP system is top priority	actor through ESRI) had some ideas. ce 10 mainframes. LRS component ir			They can not travel. After legislative session. After 6 months.	Understanding what other states are doing		
		Yes	NO	Yes	Yes	Yes	No	Technical Champion: Hussein Elkhansa	
WISCONSIN	Jonathan DuChateau	County - Route - Milepost - GPS Yes	Very interested in solution. Yes	Yes	No	No	Yes		
X L	Lead States Team Rep 608-266-6975 han.duchateau@dot.state.wi.					Already a lead state	Potentially sharing experience of API development for LRS	Susie Forde (Data Management Chief), Mike Gilchrist (GIS Unit Supervisor),	Susie Forde (Data Management Chief), Mike Gilchrist (GIS Unit Supervisor), Jonathan DuChateau (Enterprise Architect/IT
WYOMING COMMENTS	US						translations/transformations	Jonathan DuChateau (Enterprise Architect/IT Strategist)	Strateoist)
San Juan	Miguel Martinez-Yordan	Yes	Yes	No	Yes	YES	Yes	DOT & Public Works, Hwy & Transp. Authority(PRHTA) and Municipalities Public Works divisions.	Secretary of the DOT and Executive Director of the PRHTA
	787-721-8959 (direct) igmartinez@act.dtop.gov.pr	We need different calibration data because we have different referencing systems in Puerto Rico	But it is only in the first stage.	But I will look for more information.	Any help or additional information will be much appreciated.		Workflows		
, s							21		
# of "Yes" Responses # of "NO" Responses		22 17	25 15	34 4	36 3	21 19	18		
# of "Yes" Responses									

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