

State Transportation Plan Update

MPO/RPA Quarterly Meeting
December 6, 2016



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Status Update

- Seven Internal Steering Committee meetings
- Seven Action Plan Focus Group meetings
- Commission presentations in January, May, August, September, November
- Ongoing development of base document chapters
 - Chapters 1 – 4 are posted for review at <http://www.iowadot.gov/iowainmotion/index.html>
- Wrapping up technical analysis for action plan

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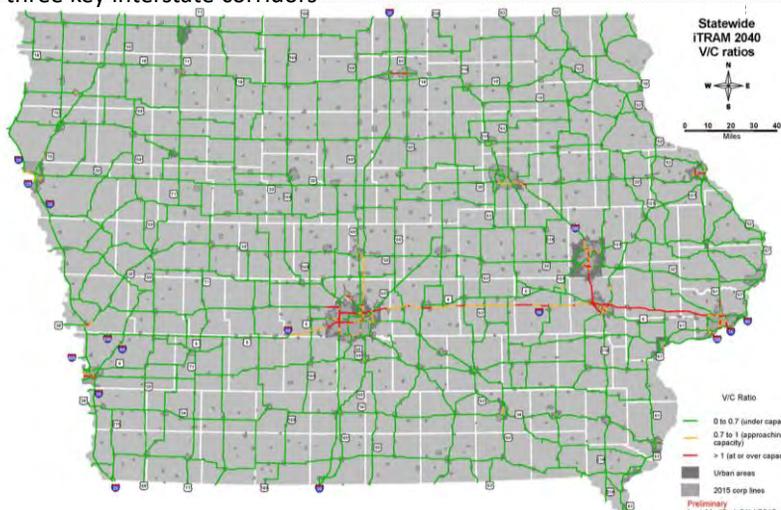
Highway improvements analysis

- Ongoing analysis related to highway improvement identification
 - Statewide capacity
 - Urban capacity
 - Mobility and safety
 - Freight
 - Condition
 - Operations
 - Bridges
- Analysis identifies **corridor-level needs** for most categories; freight and bridges are the only specific locations
- Analysis does not define types of treatments to be implemented to address needs or identify specific projects or alternatives
- Analysis helps provide corridor-level perspective as individual projects are developed, and ensure identified needs are taken into account during design

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Future statewide capacity needs analysis

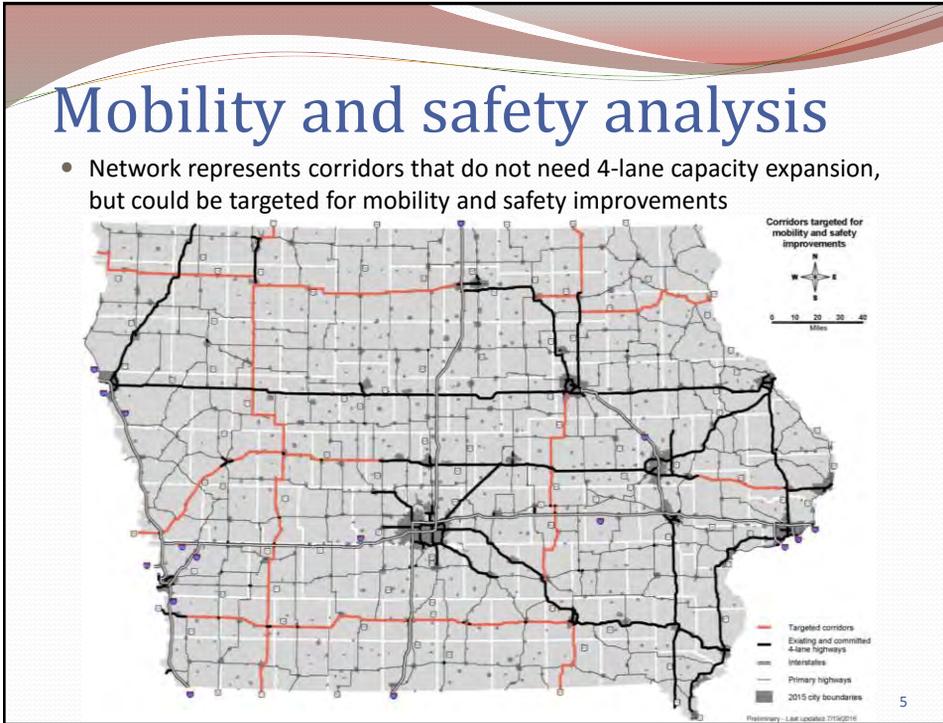
- Segments approaching/over capacity in 2040 limited to urban areas and three key interstate corridors



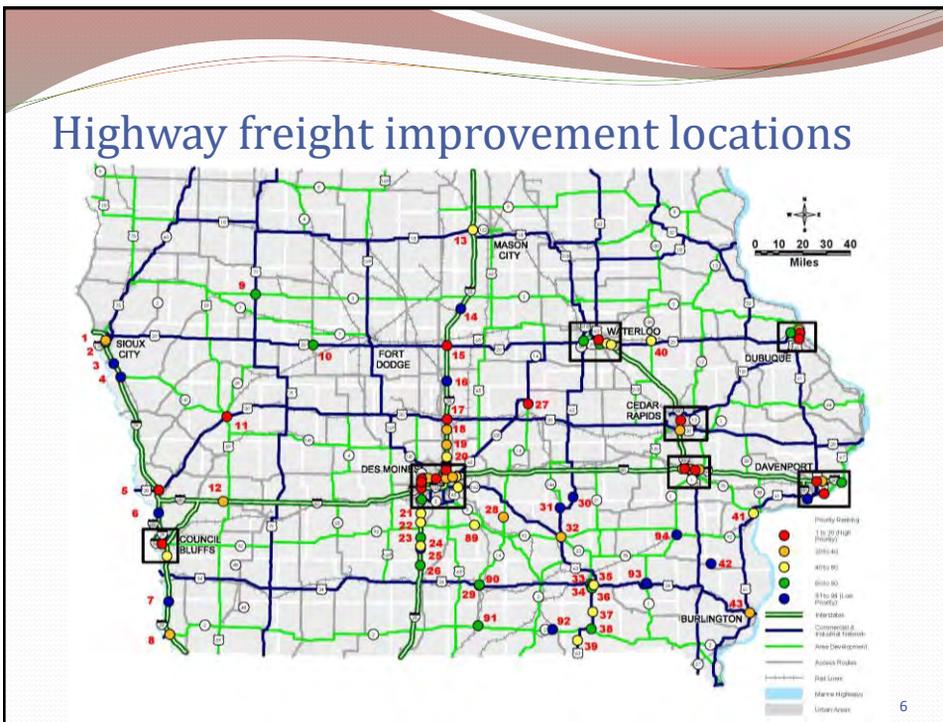
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Mobility and safety analysis

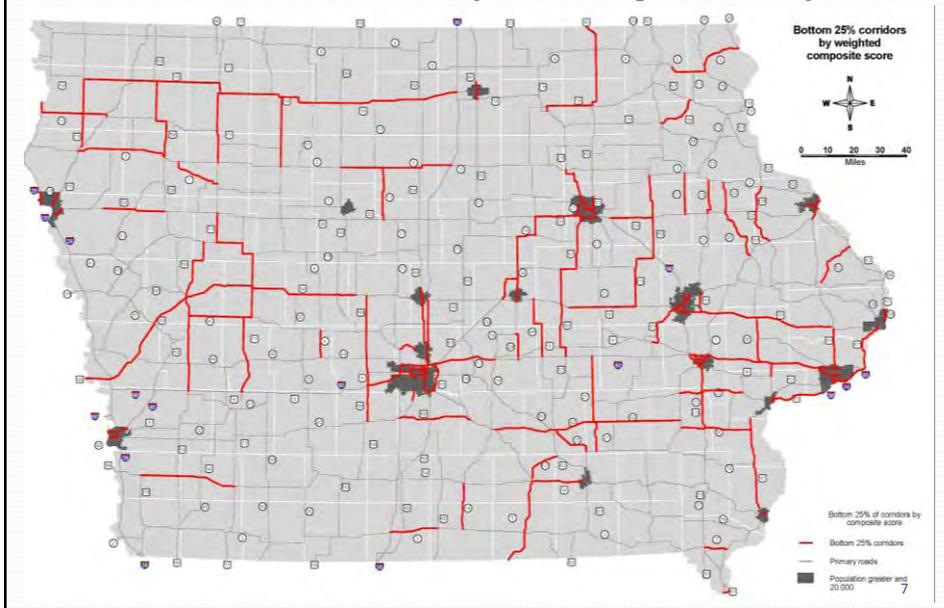
- Network represents corridors that do not need 4-lane capacity expansion, but could be targeted for mobility and safety improvements



Highway freight improvement locations



Bottom 25% of corridors by ICE Composite analysis



Highway improvements analysis

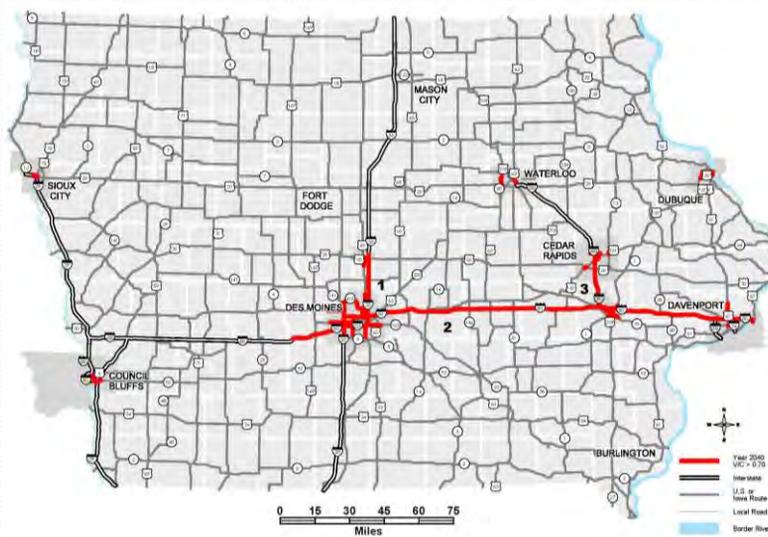
- Update on most recent highway analysis activities
 - Future capacity needs analysis – district review of urban areas
 - Updated ICE-OPS results
 - Bridge analysis
 - Matrix updates

Future capacity needs analysis – urban areas

- Initial analysis was conducted with MPO models
 - Developed standardized analysis and used same volume-to-capacity categories as statewide analysis
 - Forecast networks included MPO planned projects, but not any DOT projects beyond what is currently programmed
- Results were reviewed with Action Plan Focus Group, then locations identified as congesting/congested were sent to districts for review and comment

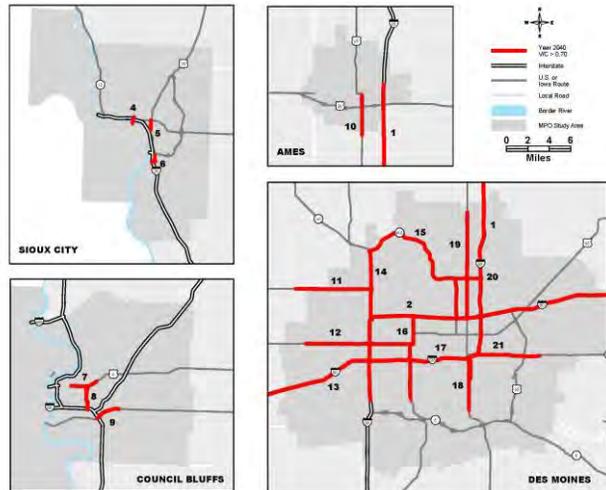
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Future capacity needs analysis – iTRAM and urban area results



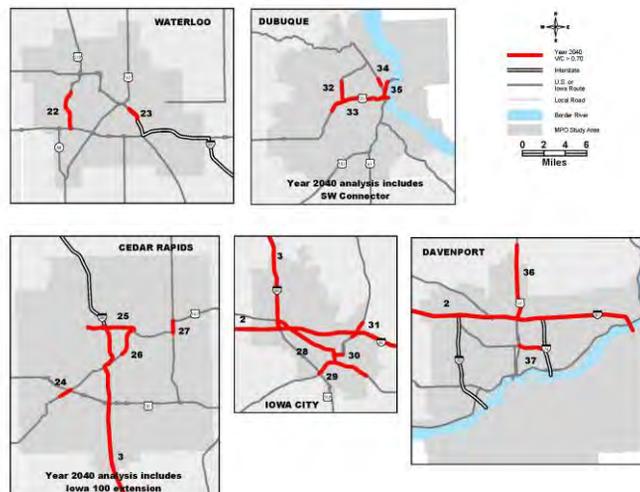
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Future capacity needs analysis – iTRAM and urban area results



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Future capacity needs analysis – iTRAM and urban area results



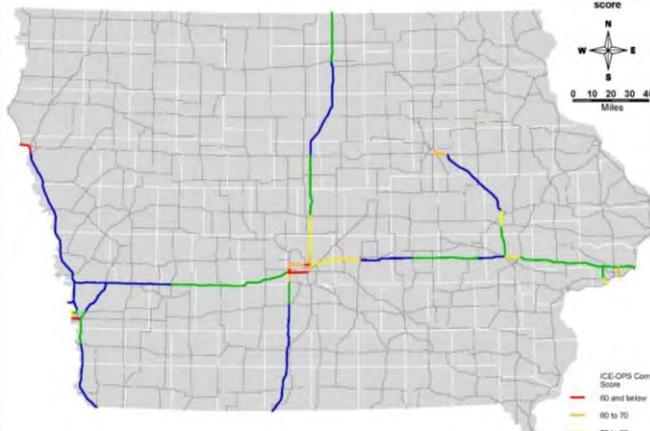
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Operations needs

- Addressing with different approaches for interstates and non-interstates
- Interstates – ICE-OPS
 - Updated with current data and more granular corridors
- Non-interstates –programmatic-level discussion (e.g., use of operational strategies to address urban primary congestion)

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Updated ICE-OPS



Rank	Corridor id	Corridor description
1	395	I-235 (jct of IA 28 to jct of US 63)
2	482	I-35/80 (west jct of I-35/80 to US 6)
3	394	I-235 (jct of I-35/80 to jct of IA 28)
4	363	I-80 (Nebraska border to jct of I-29)
5	263	I-29 (South Dakota border to jct of US 20#-I29)
6	406	I-35#-80 (jct of IA 415 to jct of I-35)
7	261	I-29 (full route)
8	407	I-35/80 (jct of IA 141 to jct of IA 28)
9	408	I-35 (jct of I-80#-235 to jct of IA 160)
10	281	I-235 (jct of US 63 to west jct of I-35/80)
11	462	I-35/80 (from jct of IA 28 to IA 415)
12	276	I-74 (full route)
13	277	I-35/80 (jct of US 6 to jct of IA 141)
14	430	I-35 (jct of IA 5 to jct of I-80#-235)
15	440	I-320 (jct of US 20 to start of US 216)
16	272	I-80 (east jct of I-35/80 to jct of IA 14)
17	280	I-35 (jct of IA 160 to jct of US 30)
18	388	I-29 (jct of I-80 to jct of I-460/US 6)
19	270	I-480 (full route)
20	268	I-380 (jct of US 30 to jct of IA 100)
21	414	I-230 (Illinois border to jct of US 6/IA 146)
22	432	I-80 (jct of I-380/US 218 to jct of IA 1)
23	267	I-380 (jct of I-80 to jct of US 30)
24	271	I-80 (jct of I-280 to jct of I-74)
25	411	I-80 (jct of US 6 to jct of I-280)
26	425	I-80 (jct of I-29 to jct of US 6)
27	278	I-35 (jct of US 30 to jct of US 20)
28	282	I-280 (jct of US 6/IA 146 to jct of I-80)
29	409	I-80 (jct of IA 110 to jct of US 6)
30	448	I-235 (jct of I-460/US 6 to jct of IA 192)
31	373	I-80 (jct of US 63 to jct of US 151)
32	271	I-80 (jct of US 168 to jct of I-80#-235)
33	273	I-80 (jct of US 7/US 6 to jct of US 169)
34	410	I-80 (jct of I-74 to Illinois border)
35	423	I-35 (jct of IA 92 to jct of IA 5)
36	365	I-35 (jct of US 181A 122 to Minnesota border)
37	286	I-29 (jct of US 24 to jct of I-80)
38	272	I-80 (jct of IA 14 to jct of US 63)
39	330	I-680 (Nebraska border to jct of I-23)
40	359	I-35 (jct of US 20 to jct of IA 3)
41	274	I-80 (jct of I-23 to jct of I-80)
42	451	I-80 (jct of US 161 to jct of I-380)
43	439	I-380 (jct of IA 100 to jct of IA 150)
44	284	I-29 (jct of IA 175 to jct of US 20#-I29)
45	270	I-80 (jct of US 6 to jct of US 159)
46	405	I-35 (jct of US 34 to jct of IA 92)
47	369	I-80 (jct of US 59 to jct of US 7/US 6)
48	276	I-35 (Missouri border to jct of US 34)
49	265	I-29 (jct of IA 160 to jct of I-680)
50	263	I-380 (jct of IA 160 to jct of US 20)
51	419	I-23 (Missouri border to jct of IA 2)
52	438	I-29 (jct of US 30 to jct of IA 175)
53	278	I-35 (jct of US 20 to jct of IA 3)
54	420	I-23 (jct of IA 2 to jct of US 34)

Addressing bridge needs

- Large bridge project needs (primarily border bridges)
- Condition analysis of bridges, similar to condition analysis conducted for highways (bottom 5% of bridges by condition index)
 - Highlight high cost projects (over \$5 million)
- Strategies for addressing bridge needs

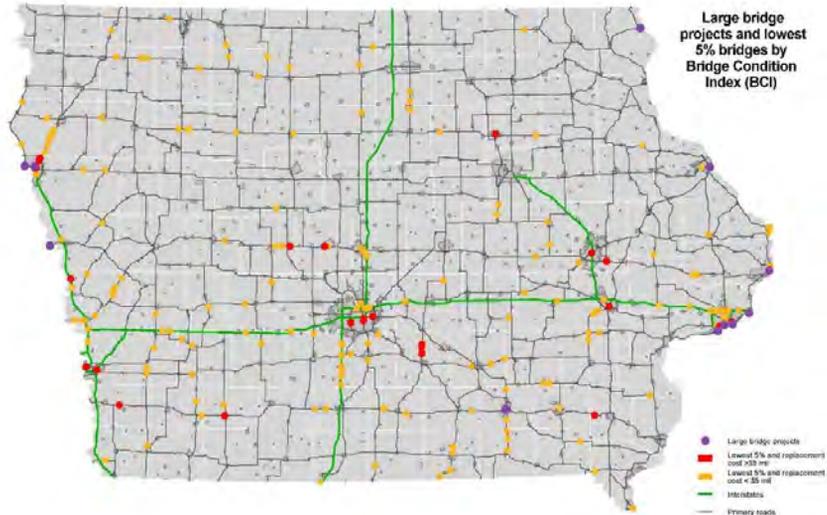
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Large bridge project needs

- List shared with Commission at the February workshop
 - I-74 over Mississippi River – Replacement
 - I-80 over Mississippi River – Replacement
 - IA 9 over Mississippi River – Replacement
 - US 67 over Mississippi River – Replacement
 - I-280 over Mississippi River – Deck Replacement
 - I-129 over Missouri River – Deck Overlay
 - IA 12 Gordon Drive Viaduct, Sioux City – Replacement
 - IA 175 over Missouri River – Replacement
 - US 20 over Mississippi River – Replacement
 - US 30 over Mississippi River – Replacement
 - US 63 Ottumwa Viaduct, Ottumwa - Replacement

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Addressing bridge needs



Highway improvement matrix concept

- Intend to show a matrix of various types of improvements identified through analysis
 - Statewide capacity
 - Urban capacity
 - Mobility/safety
 - Freight (individual locations and number within corridors referenced)
 - Condition based on ICE Tool
 - Operations (ranking for interstate segments referenced)
 - Bridge (individual locations and number within corridors referenced)

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Highway improvement matrix

- Current concept

Route	ID	Corridor	Counties	Miles	Capacity	Freight (out of 94)	Condition	Operations (out of 54)	Bridge (out of 200+)
Interstate	368	I-80 (Nebraska border to jct of I-29)	Pottawattamie	3.5		1		4	
	425	I-80 (jct of I-29 to jct of US 6)	Pottawattamie	5.0				26	1
	370	I-80 (jct of US 6 to jct of US 59)	Pottawattamie	31.5		36		45	
	369	I-80 (jct of US 59 to jct of US 71/US 6)	Cass, Pottawattamie	20.9				47	2
	273	I-80 (jct US 71/US 6 to jct of US 169)	Adair, Dallas, Cass, Madison	48.9				33	2
	371	I-80 (jct of US 169 to W Mixmaster)	Dallas, Polk	12.3		13		32	
	272	I-80 (E Mixmaster to jct of IA 14)	Polk, Jasper	28.5		34, 22, 28, 43		16	1
	372	I-80 (jct of IA 14 to jct of US 63)	Jasper, Poweshiek	27.6				38	
	373	I-80 (jct of US 63 to jct of US 151)	Iowa, Poweshiek	32.8				31	1
	451	I-80 (jct of US 151 to jct of I-380)	Johnson, Iowa	19.7		48, 7		42	
	432	I-80 (jct of I-380/US 218 to jct of IA 1)	Johnson	7.1		7, 32, 27, 20, 26		22	
	409	I-80 (jct of IA 1 to jct of US 6)	Cedar, Johnson	24.6				29	
	411	I-80 (jct of US 6 to jct of I-280)	Scott, Cedar	18.7				25	2
	271	I-80 (jct of I-280 to jct of I-74)	Scott	7.8		12, 30		24	3
	410	I-80 (jct of I-74 to Illinois border)	Scott	8.9		30, 62		34	1

Bridge column to be updated with ID numbers (ranked by condition)

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Modal improvements

- Possible analysis/improvement needs for each mode
 - Aviation – percent of airports meeting facility/service targets
 - Bicycle/pedestrian – statewide trails vision; bicycle compatibility analysis coupled with complete streets strategies
 - Public transit – facility, fleet, and service needs
 - Rail – needs identified through State Rail Plan

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Strategies

- Currently a total of 81 strategies identified across a variety of topics/planning efforts
 - Asset Management
 - Aviation
 - Bicycle/pedestrian
 - Bridge
 - Emergency Transportation Operations
 - Energy
 - Freight (includes water)
 - Highway
 - Park and Ride
 - Public Transit
 - Rail
 - Safety
 - Technology
 - Transportation System Management and Operations

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Financial analysis

- Program Management has provided funding projections
- Road Use Tax Fund Study is underway and will be completed in December; highway needs will be drawn from the study
- Modes are being analyzed individually, similar to last plan

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Modal financial analysis

- General methodology
 - Needs
 - Determine what the state share has typically been for overall modal needs
 - Forecast future needs based on existing plans (Aviation System Plan, Public Transit Funding Study, Rail Plan); apply state share to needs
 - Revenues
 - Develop 10-year history of revenues in 5-year program
 - Forecast revenues based on extrapolation of 10-year revenue history
 - Show average annual Iowa DOT share of total modal costs, anticipated Iowa DOT revenue, and shortfall

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Next steps

- Finalize highway improvements matrix
- Internal Steering Committee exercise to identify level of effort and level of impact for strategies
- Continue work on drafting chapters 5-7 and make available for comment
- Targeting full draft availability and beginning of public input period in late February; plan approval in May

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