State Transportation Plan Update

Iowa Transportation Commission

November 8, 2016

IOWA DOT
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Status Update

- Previous Commission presentations in January, May, August, September
  - Overall approach to plan update and key changes
  - Ongoing public and stakeholder input
  - Development of vision and investment areas
  - Highway capacity needs analysis
  - Mobility and safety analysis
  - Freight and condition analysis
- Ongoing development of document, technical analysis for action plan, modal integration
- Latest round of public input

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Highway improvement identification

- Ongoing, iterative analysis:
  - Capacity (May workshop)
  - Mobility and safety (August workshop)
  - Freight (September workshop)
  - Condition (September workshop)
  - Operations (November workshop)
  - Bridges (November workshop)
- Improvement types will be presented both individually and in a comprehensive, corridor-level matrix

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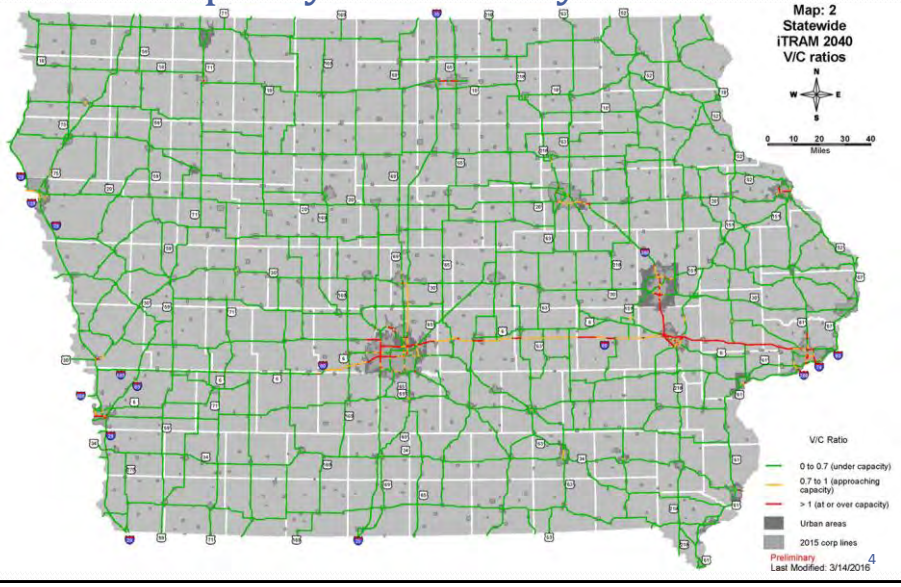
Future capacity needs analysis



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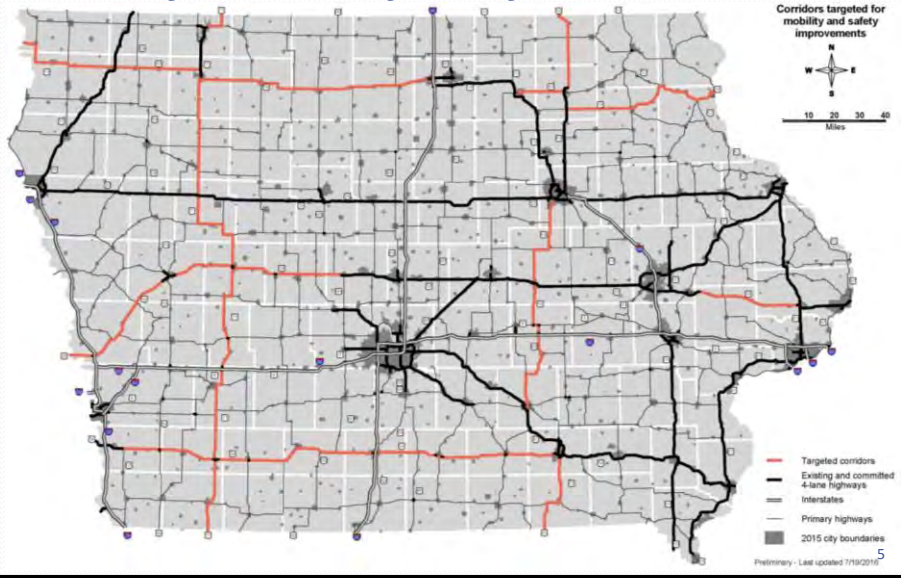
Mobility and safety analysis



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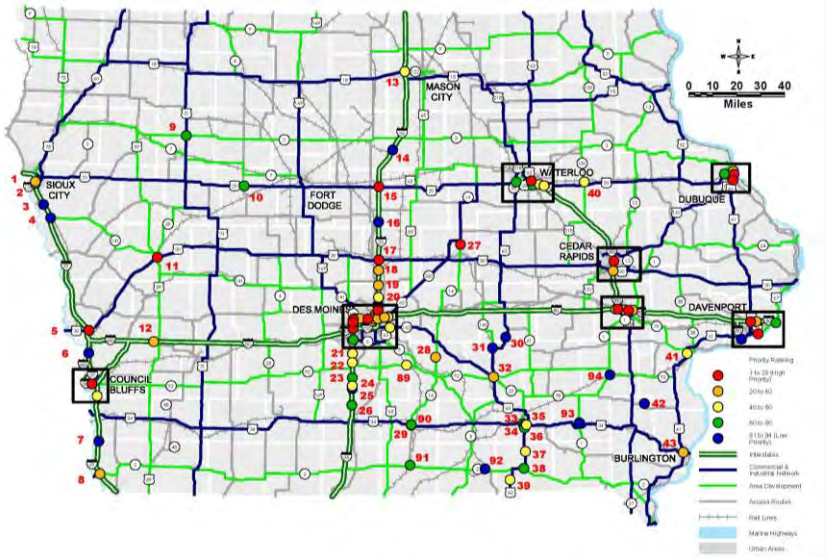
Freight (VCAP) analysis



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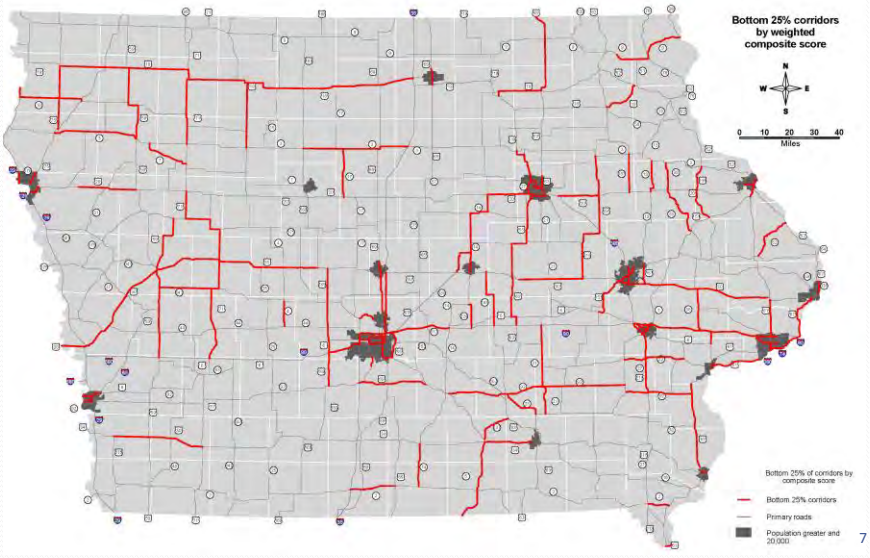
Condition (ICE) analysis



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Future capacity needs analysis – urban areas

- All nine metropolitan planning organizations (MPO) have their own travel demand models
- MPO models were preferred for analyzing forecast congestion in urban areas rather than iTRAM
  - More granular socioeconomic data and road networks
  - MPOs develop their own socioeconomic forecasts for their plans, which may vary from the iTRAM estimates developed from a statewide perspective
- Results incorporated into capacity needs identification with statewide iTRAM analysis
  - Reviewed against MPO LRTPs for consistency
  - Also reviewed by Iowa DOT District offices

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Addressing operations needs

- Addressed using different approaches for interstates and non-interstates
- **Interstates** – ICE-OPS
  - Developed to support the Transportation Systems Management and Operations (TSMO) Plan
  - Similar analysis structure to original ICE tool, but with operations-focused criteria
  - Analysis has been updated for use in the SLRTP (refreshed input data, more granularity)

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ICE-OPS structure

- Uses nine operations-focused criteria
  - All bottleneck occurrences per mile (10%)
  - Freight bottleneck occurrences per mile (10%)
  - Traffic incident frequency per mile (15%)
  - Crash rate (15%)
  - Reliability index (10%)
  - Event center buffer index (5%)
  - Weather-sensitive corridor mileage (10%)
  - Average annual daily traffic (20%)
  - ICE rating (5%)
- Each criteria assigned a normalized value (1-10 scale) based on range of observed values
- Calculates composite score after applying weighting to each normalized value (max 100)
- Ranks interstate corridors from an operational perspective: lower score indicates greater operational challenges

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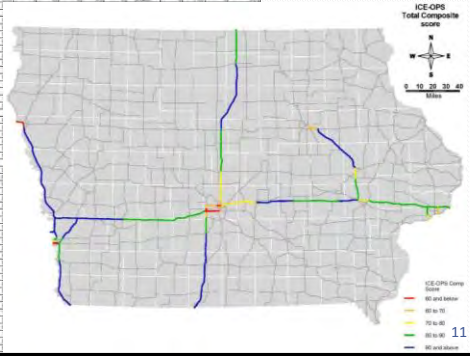
ICE-OPS results

- Interstate corridor rankings were incorporated into highway improvement matrix

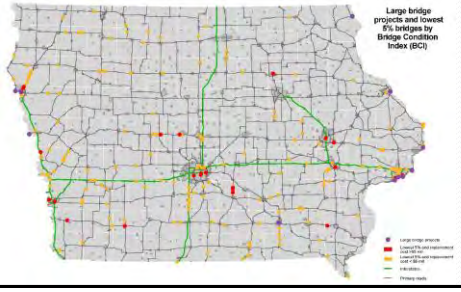


Operations needs

- **Non-interstates** –programmatic-level discussion (e.g., use of operational strategies to address urban primary congestion)
  - Lack of quality data to expand ICE-OPS beyond interstates
  - Prefer not to develop an additional specialized analysis
- Approach is supported by the "TSMO Roadway Facility Hierarchy" included in the TSMO plan: interstate highways are the most important facilities to actively manage
- Action plan will still include system-level TSMO strategies derived from the TSMO plan, but would focus on the interstate for corridor-level needs

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)
- These bridge locations were incorporated into highway improvement matrix



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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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Highway improvement matrix

- Intend to show a matrix of various types of improvements identified through analysis
  - Capacity (statewide and urban)
  - Mobility/safety
  - Freight
  - Condition
  - Operations
  - Bridge

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Highway improvement matrix

Route		Corridor	Counties	Miles	Capacity	Mobility/ Safety	Freight	Condition	Operations	Bridge
Interstates	I-80	jct of I-74 to Illinois border *Freight improvement at location IDs 85, 88*	Scott	8.9			2		34/54	2
		jct of I-280 to jct of I-74 *Freight improvement at location IDs 84, 85*	Scott	7.8			2		24/54	3
		jct of US 6 to jct of I-280	Scott, Cedar	18.7					25/54	2
		jct of IA 1 to jct of US 6	Cedar, Johnson	24.6					29/54	
		jct of I-380/US 218 to jct of IA 1 *Freight improvement at location IDs 79, 80, 81, 82, 83*	Johnson	7.1			5		22/54	
		jct of US 151 to jct of I-380 *Freight improvement at location IDs 78, 79*	Johnson, Iowa	19.7			2		42/54	
		jct of US 63 to jct of US 151	Iowa, Poweshiek	32.8					31/54	1
		jct of IA 14 to jct of US 63	Jasper, Poweshiek	27.6					38/54	
		east mixmaster to jct of IA 14 *Freight improvement at location IDs 62, 63, 64, 65*	Polk, Jasper	28.5			4		16/54	1
		jct of US 169 to west Mixmaster *Freight improvement at location ID 51*	Dallas, Polk	12.3			1		32/54	
		jct US 71/US 6 to jct of US 169	Adair, Dallas, Cass, Madison	48.9					33/54	2
		jct of US 59 to jct of US 71/US 6	Cass, Pottawattamie	20.9					47/54	2
		jct of US 6 to jct of US 59 *Freight improvement at location ID 12*	Pottawattamie	31.5			1		45/54	
		jct of I-29 to jct of US 6	Pottawattamie	5.0					26/54	1
		Nebraska border to jct of I-29 *Freight improvement at location ID 48*	Pottawattamie	3.5			1		4/54	

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Public input survey

- Was available August 9 – September 30
- Advertised through two press releases, social media, State Fair
- 1,646 responses
- Good geographic coverage
- Spikes in responses
  - Launch
  - Carroll radio story and US 30 coalition email
  - Iowa Bicycle Coalition email

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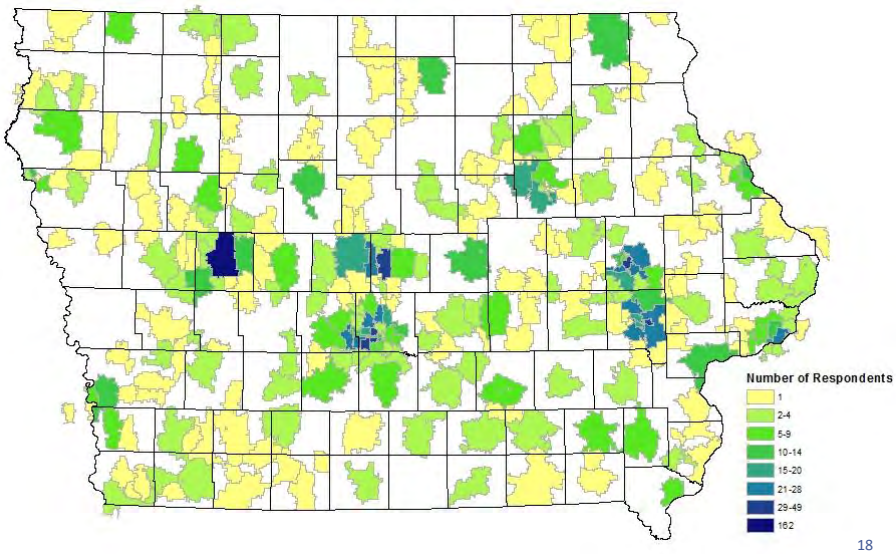
Public input survey responses by ZIP



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Public input survey takeaways

- Overall, public input continues to support the direction of the plan
- Examples: Highway action plan feedback
  - **Capacity needs**: Majority favor operational improvements or added lane capacity on targeted corridors (urban areas, 3 key interstate corridors). Only 12.7% favor added lane capacity elsewhere.
  - **Mobility & Safety needs**: Majority favor Super-2-like enhancements on targeted corridors.
  - **Freight needs**: Majority favor targeted investments to address freight bottlenecks.

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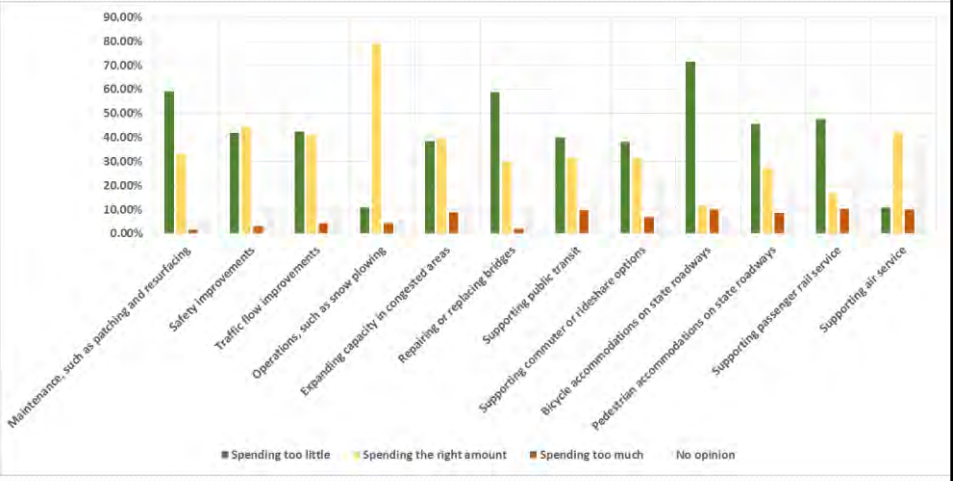
Are we spending too much, too little, or the right amount in each of these areas?



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Next steps

- Continue draft document development
- Wrap up technical analysis for action plan
- Integrate modal strategies
- Develop financial component

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Contact

Plan update webpage: www.iowadot.gov/iowainmotion

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