Des Moines Metropolitan Area Integrated Corridor Management Concept of Operations Workshop

March 28, 2019

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INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Welcome & Introductions

Participant Introductions

- Name
- Organization/Agency
- Position
- Role and Responsibility

Workshop Purpose

- Determine how the ICM system will be operated
- Understand how agencies will share operational roles in support of the ICM vision and goals
- Collect feedback from participants
- Gain consensus on high-level ICM concept

Agenda

Time	Item
9:30am	Welcome and Introductions
9:40am	Project Background
10:00am	Proposed ICM Program Concepts Part 1
11:20am	*Break*
11:30am	Proposed ICM Program Concepts Part 2
12:30pm	*Lunch*
1:00pm	Proposed ICM Program Concepts Part 3
2:00pm	*Break*
2:10pm	Proposed ICM Program Concepts Part 4
2:40pm	Proposed ICM Program Management and Operation
3:20pm	Wrap Up
3:30pm	Adjourn

Your Role Today…

- Think about how you would like to operate YOUR system
  - How can the system improve your operations?
  - What steps must be taken to work collectively?
- Explain how you use the system today. How can it be improved?
- Be honest…there will be no repercussions!
- Your input is critical to the success of this project!

Project Background

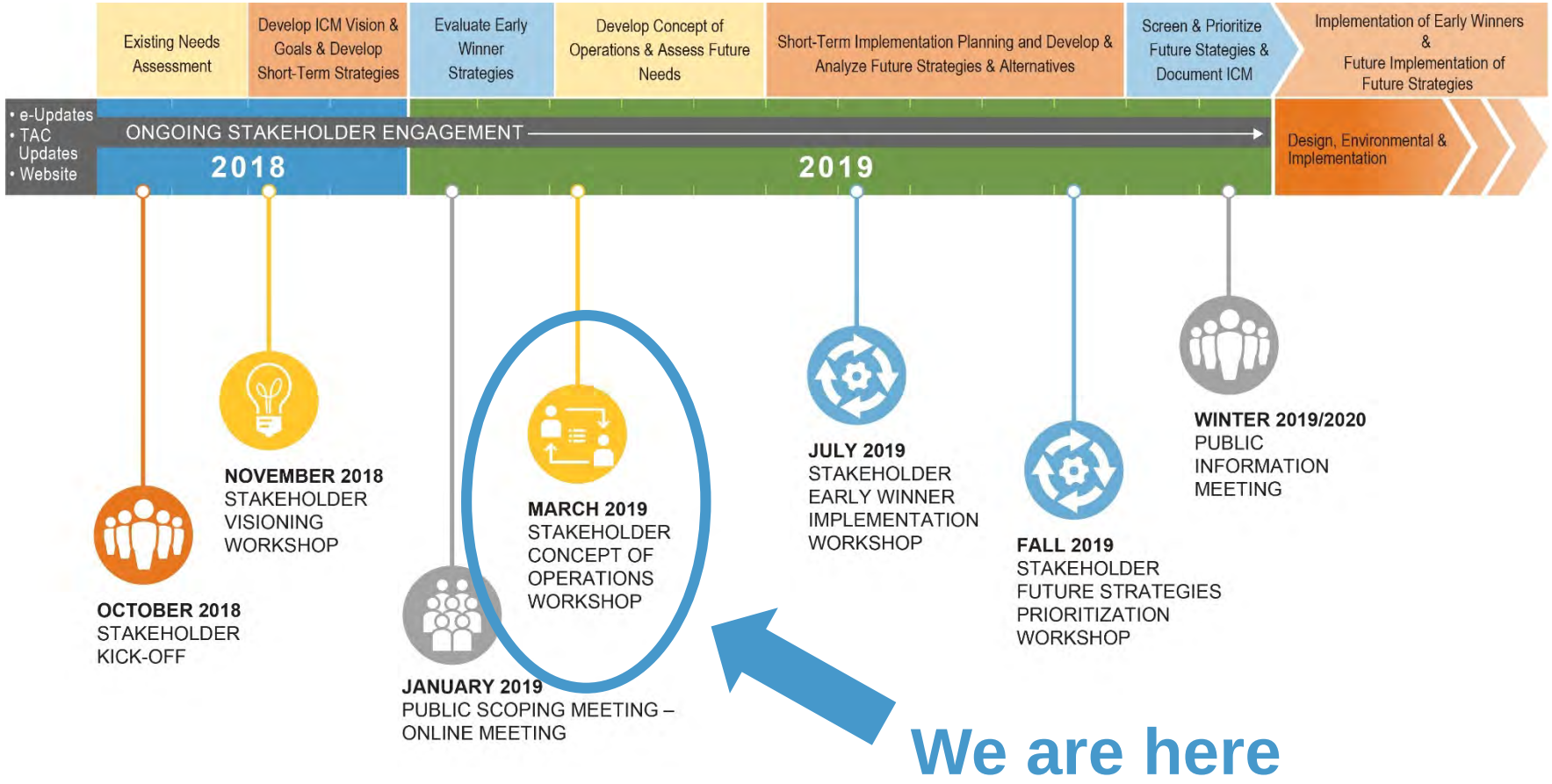
Project Guiding Principles

Manage the transportation system proactively and holistically to allow the DOT and other local and regional agencies to more actively manage transportation demand using all available tools:

- Leverage capacity on adjacent or parallel networks
- More effectively manage existing transportation assets and systems
- Promote the use of transit to efficiently move greater number of people using few vehicles

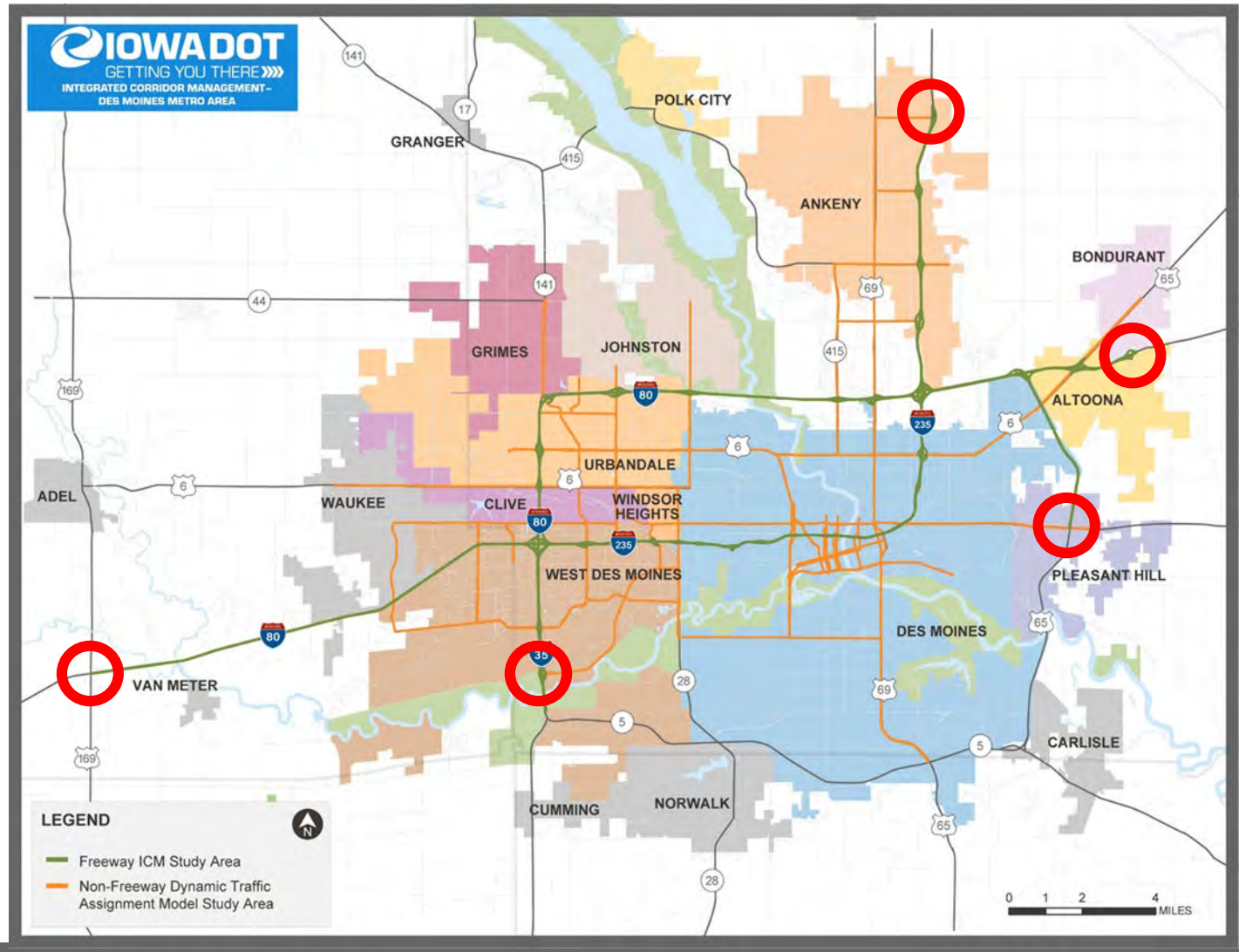
Project Goals

Scope/Schedule



Project Boundaries

- I-80
  - US Hwy 169 (Desoto)
  - 1st Avenue (Altoona)
- I-35
  - Iowa 5 (West Des Moines)
  - 36th Street (Ankeny)
- US 65 (I-80 to IA 163)
- Selected parallel and connecting arterials



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ICM Overview

What is ICM?

- Integrated management and operation of freeways, arterials, transit and parking systems within a corridor
- Management of the corridor as a system, rather than the more traditional approach of managing individual assets
- Delivered in a more cost-effective manner compared to traditional infrastructure capacity expansion projects

Why ICM?

- Range of recurring and non-recurring conditions impact travel
- Ability to leverage existing transportation infrastructure to the extent possible
- Need to find synergies from a set of strategies implemented as a multimodal, multi-jurisdictional system
- Increasing customer expectations for safety, mobility, and reliability

Why ICM for Des Moines Metropolitan Area?

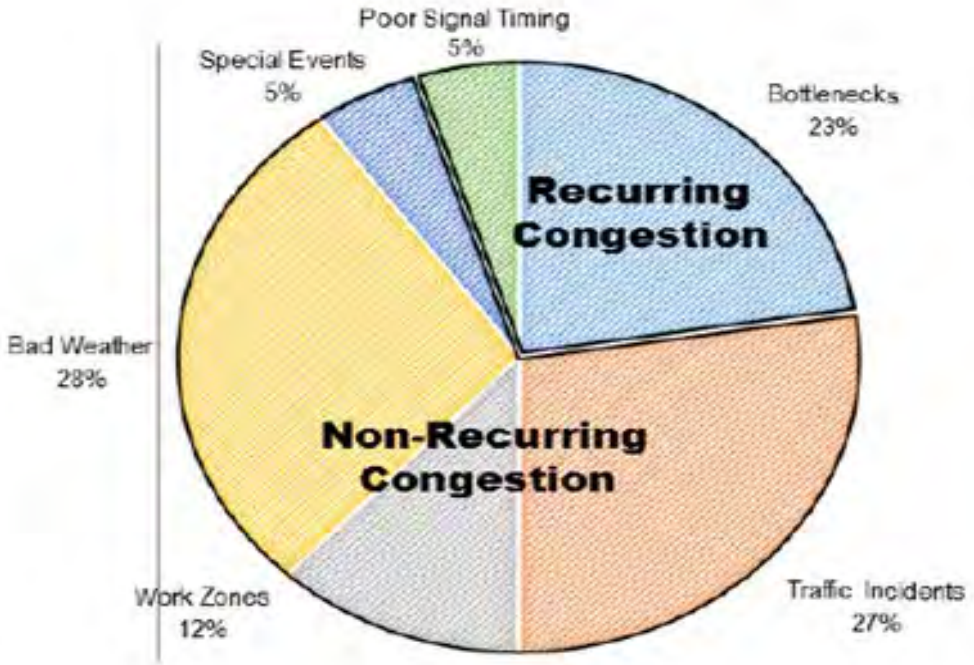


FIGURE 1. IOWA SOURCES OF CONGESTION, 2013-2015

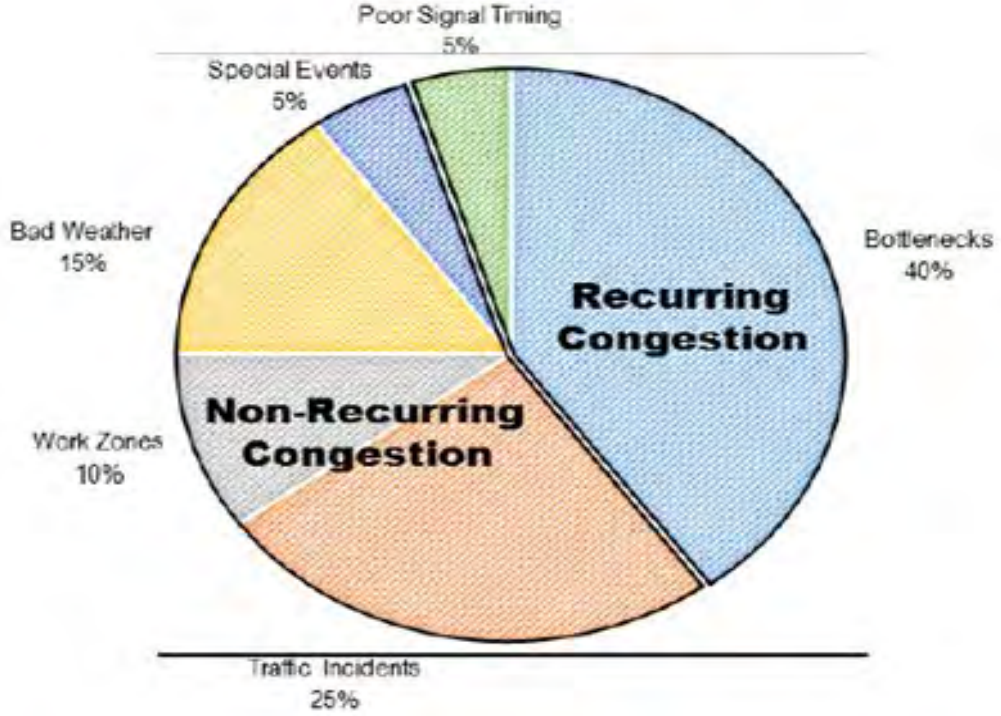


FIGURE 2. NATIONAL SOURCES OF TRAFFIC CONGESTION, 2005
(Cambridge Systematics, 2005)

Representative ICM Benefits

- Improved Safety and Emergency Response
- Improved Accessibility and Mobility
- Reduced or Shifted Demand
- Enhanced Traveler Choice and Decision Making
- Increased Return on and Use of Existing Investment
- Improved Transportation Efficiency and Productivity
- Improved Customer Experience and Perception
- Reduced Environmental Impact
- Institutional Cooperation

Concept of Operations Purpose & Understanding

What is a Concept of Operations?

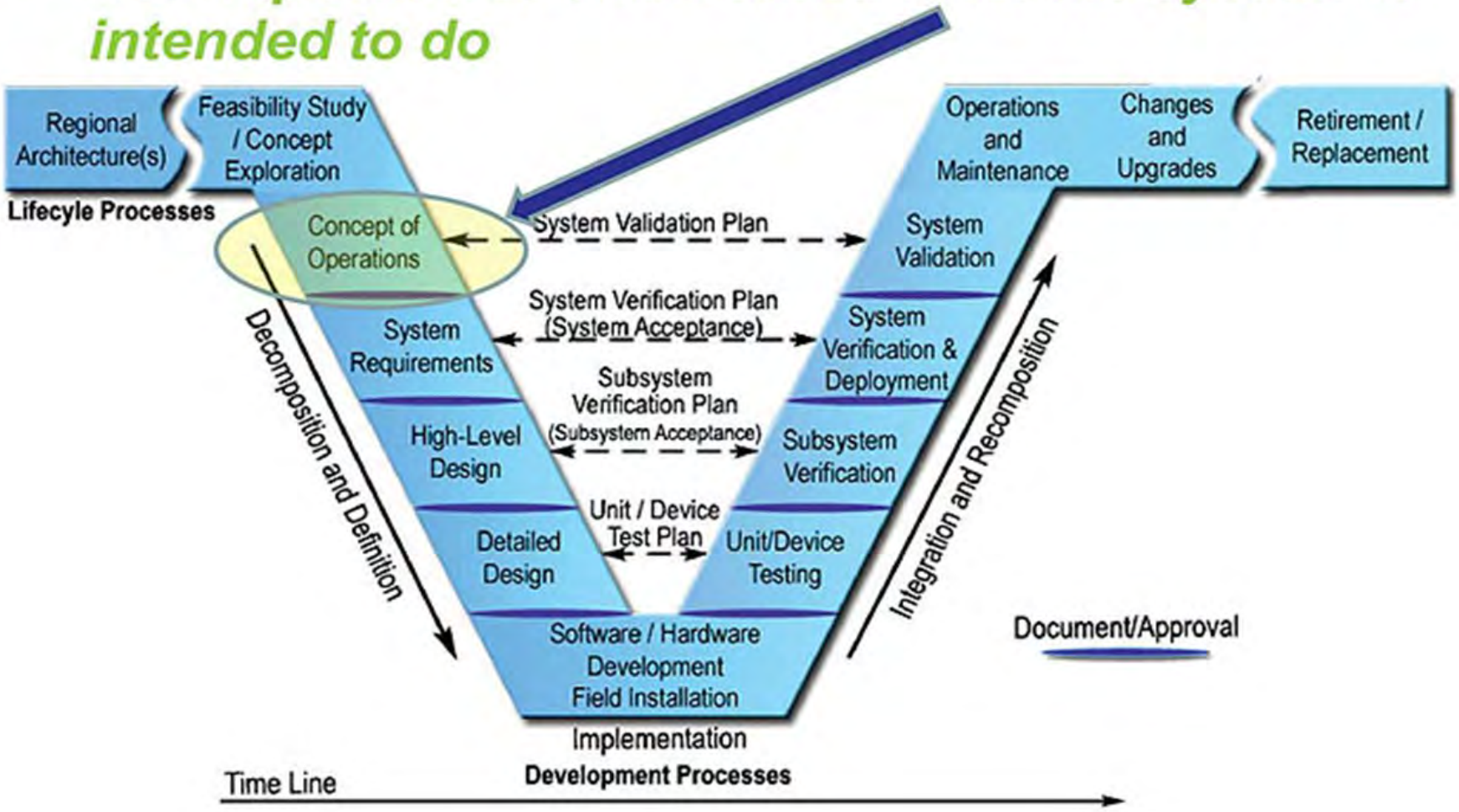
- User oriented, easy to understand description of the proposed project from the user's viewpoint
- Defines various user classes
- Describes how the system will function in delivering transportation services
- Documents operational needs

What is a Concept of Operations? Cont.

- Delineates the interaction, roles and responsibilities of all system users
- Promotes stakeholder understanding, improves inter-agency communications and serves as a mechanism to gain consensus
- Defines existing institutional and policy frameworks the system will operated within
- Identifies operational constraints

Systems Engineering Context

- *It is important to understand what the system is intended to do*



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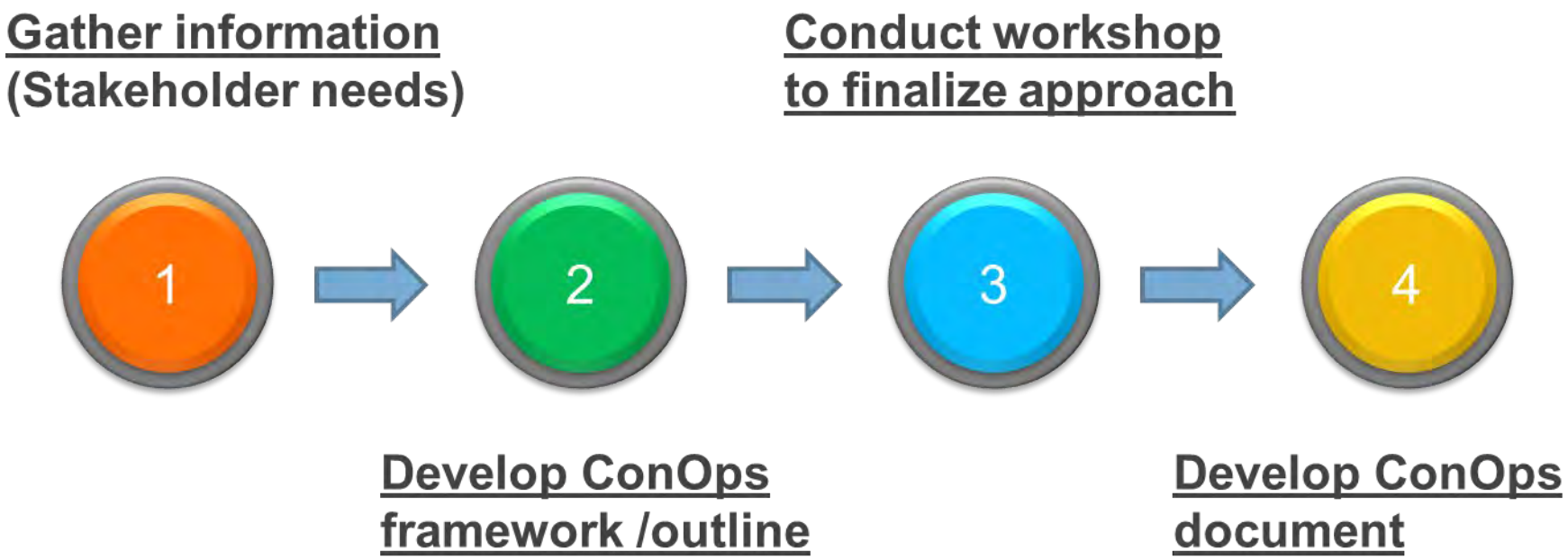
Concept of Operations Development Process

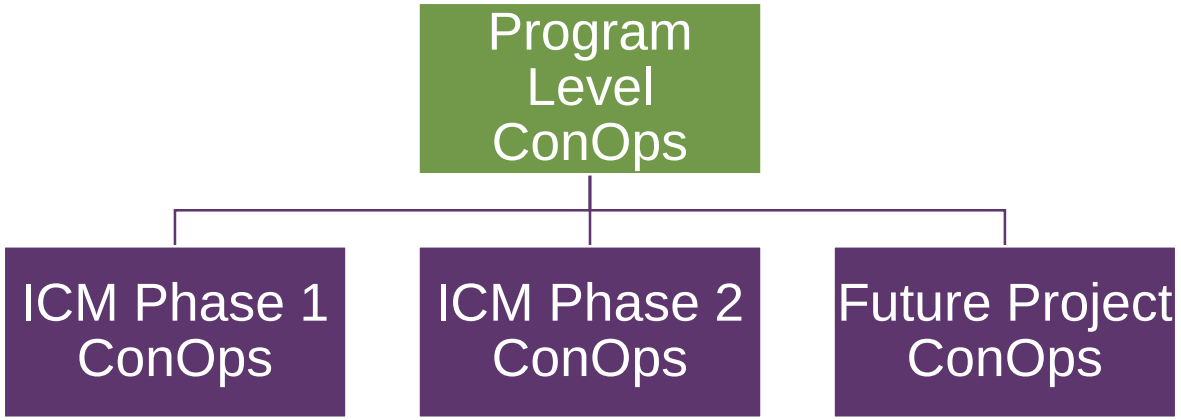


Program v. Project Level ConOps

Program Level	Project Level
Serves a the ”Parent" ConOps for “Child" project-level ConOps	Focuses on a specific ICM-related project or sub set of projects
Holistic— sums of all parts view (the whole puzzle)	Adds details to the content developed for Program-level ConOps
Regional context — Does not look at specific locations	Location specific context — more focus on specific problems/locations/solutions (one piece of the whole puzzle)
High-level view of ICM operations within the DSM region	Ground-level view for ICM operations

Program and Project ConOps Relationship

- Program-level ConOps will be developed first
- Program-level ConOps will provide the regional context and “tool box” of ICM solutions
- Project-level ConOps adds detail and leverages Program-level ConOps



Program-level ConOps Outline

- Section 1: Introduction
- Section 2: Document Purpose and Understanding
- Section 3: Referenced Documents
- Section 4: Situational Background
- Section 5: ICM Operational Description
- Section 6: Operational Environment
- Section 7: Support Environment
- Section 8: ICM Concepts
- Section 9: Summary

Summary of Conditions/Needs

Identified Operational Issues

Northwest

- Weaving issues
- Poor/outdated signal timing
- Traffic impacts on arterials adjacent to interstate

Northeast

- No access/limited access across median
- Short merge segments
- Bottlenecks
- Queueing onto interstate
- Heavy traffic
- Lack of turn lanes

Southwest

- Weather
- Bottlenecks (drop lanes)
- Arterial signal coordination
- High speeds into congestion
- High demand/limited capacity on Mix Master
- Transit service/park-and-ride access

Southeast

- Infrastructure connectivity
- Pedestrian mobility improvements
- Upgrade Highway 5 to Interstate standards

Approach to ICM Planning

Des Moines ICM Factors and Considerations *(in alphabetic order)*

1. **Accessibility**
2. Agency Efficiency
3. Environmental
4. Health and Well-being
5. **Integration and Connectivity**
6. **Mobility**
7. **Regional Economic Vitality**
8. **Reliability**
9. **Safety**
10. Security
11. **System Management**
12. **System Preservation**

Bold – Highest Priorities

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Des Moines ICM Vision

The Des Moines metropolitan area will benefit from a safe, efficient, reliable and sustainable transportation system that supports economic growth and promotes an equitable and healthy community. ICM strategies will assist the state and area communities to proactively manage multi-modal transportation systems in a safe and efficient manner using proven technologies and operational strategies while maximizing the use of existing infrastructure and services. ICM will offer travelers more opportunities to make seamless and convenient trips to meet social and economic needs.

Des Moines ICM Program Goals

Factor	Goal
Safety	Reduce fatalities and serious injuries on public roads in the region
Mobility	Provide options to travelers that minimize time spent traveling
Reliability	Improve efficiency and predictability of travel in the region
Integration and Connectivity	Provide transportation that allows traveler to make efficient and seamless multi-modal trips throughout the region
Accessibility	Improve traveler's overall ability to reach key destinations such as jobs, schools, libraries, health care, shopping, and entertainment

Des Moines ICM Program Goals (Cont.)

Factor	Goal
Regional Economic Vitality	Use the regional transportation system to foster a thriving, competitive regional economy.
System Preservation	Maintain transportation infrastructure in a state of good repair.
Systems Management	Improve the efficiency of the surface transportation system.

Identified Success Factors

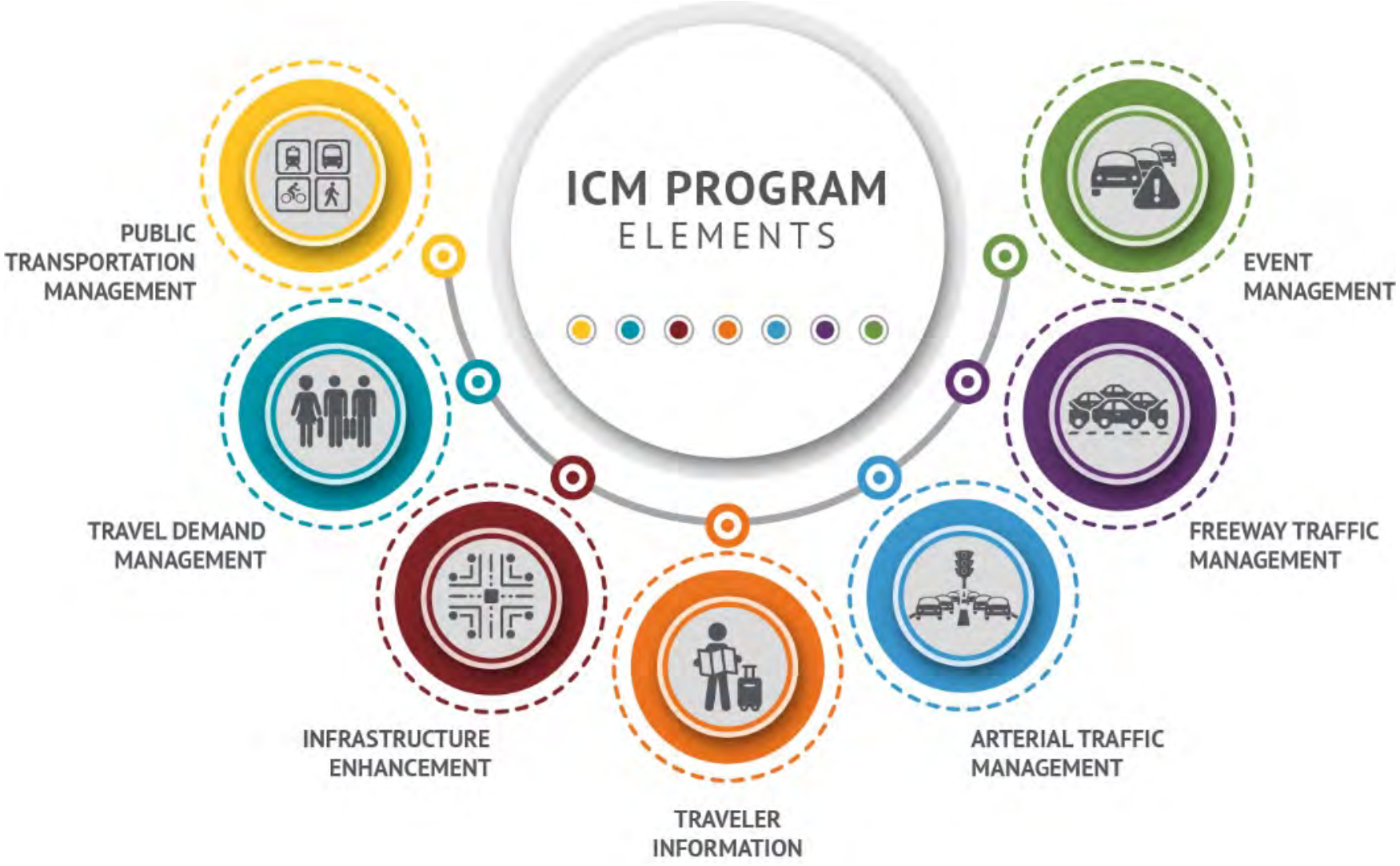
- Active and sustained engagement of stakeholders
- Predictable and reliable travel
- Support the advancement of a vital economy
- Proactive in identifying potential funding sources
- Cost effective and maximize operational benefits
- Sustainable management and maintenance programs

Identified Success Factors (cont.)

- Maintain and preserve the built and natural environment
- Focus on emerging trends
- Consider impact on all users
- Address range of commuter options such as telecommuting
- Foster flexible, and adaptable interconnection of systems

ICM Program Concepts

ICM Program Elements



Event Management Strategies

Event Management Concepts

- Traffic Incident Management
- Planned Special Event Management
- Work Zone Management
- Weather Responsive Traffic Management
- Freight Operations and Management

Traffic Incident Management

- Detect, respond and clear traffic incidents
- Restore traffic flow and reduce secondary incidents
- Coordination across agencies
- Focus on safety and mobility
- Robust program currently in place
- Are any changes needed to traffic incident management operations?

Traffic Incident Management
Stakeholder Feedback / Discussion

- DOT has State TIM group
- TIM advisory committee (MPO)
- Train speed limits and other safety features
- Good awareness of alternate routes
- On I-235 there is not sufficient inside shoulder on inside lane
- Extended hours of highway helper
- Highway helper is very responsive
- Highway helper has direct access to PD
- Rolling out state communications to get agencies better coordinated
- TIM training is very beneficial – quick clearance
    - Could use more training
- Not all agencies have staff or access to the State TMC cameras
    - Could use triggers for automated incident detection
- Cable barrier helps prevent cars from crossing on-coming lane, but cars get stuck in barrier and block lanes

Major Traffic Incident Scenario

Event:	Collision on WB I-80 at NE 29th St (between Hwy 65 and NE Mixmaster). Large truck involved in secondary collision and loses its load.
Day/Date/Time:	Friday, March 29th, 4:53pm
Conditions:	All WB lanes blocked, traffic queues rapidly building back toward Hwy 65 Interchange

Major Traffic Incident
Envisioned Operations

- Reflects a multi-lane closure
- Focus on safety, vehicle routing, and access for emergency responders
- Operate available tools:
  - DMS to display travel times / incident warnings
  - 511 Information
- How would emergency responders access the incident?
  - Median barrier break located between NE 29th and NE 38th

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Major Traffic Incident
Stakeholder Feedback / Discussion

- Use DOT's pre-developed diversion route
  - Diversion plan provides guidance on DMS messages
  - Is there any calculation on amount of traffic a diversion route can handle?
    - Provides primary and secondary routes, but cannot provide 100% relief
  - Maps are web-based
  - First responders determine if the diversion route should be implemented.
- Is there communication to agencies to change signal timings?
  - In Des Moines – no
  - West suburbs have the capability
- If a diversion route is decided, they need to check with local agencies for potential road work on those routes.
- First officer on scene make initial call for shutdowns until they can assess the extent of the closure.
- Anything transit needs to know?
  - DART is notified of closures
  - May need extra buses

Major Traffic Incident
Questions

- Should the median barrier break be opened to allow expedited access by responders?
  - Which responders should be allowed access?
  - What process should be used to open the break?
  - Will traffic control be needed in either direction?
  - Should it be left open if additional responders will need it?
- Are there other new TIM strategies that would help?
- Should there be signal timing plans developed for this type of incident?

Major Traffic Incident
Stakeholder Feedback / Discussion

- Would it be helpful to have a median break?
  - It would be helpful to get emergency response vehicle access.
  - Who gets access?
    - Officer on scene can decide
  - What is the process to open the barrier and what do you do once it is open?
    - Fire supervisor would open and officer would monitor.
    - Leave open and man with officer
    - If a tow truck could get there faster we would open it up
  - Is there a need for traffic control to open the gate?
    - No
- Communications alerts directly to cars
- GPS systems providing re-routing
- Call public information officer to get messages out including diversion route
- Develop app for metro to provide traffic data
- Local media needs safety training
- Are there signal timing plans for your diversion routes?
  - It would be helpful
  - People start getting off at earlier interchanges so it affects multiple routes
  - At previous agency, they had pre-developed traffic signal timings

Planned Special Event Management

- Event planning to minimize impacts
  - Event operations planning
  - Day-of-Event activities
  - Post-event activities
- Institutional collaboration and coordination
- Focus on impact mitigation and accessibility

Planned Special Event Scenario

Event:	Iowa State Fair
Day/Date/Time:	Saturday, August 17th, 2019 (mid-day)
Conditions:	Heavy traffic arriving and leaving fairgrounds, fair weather

Planned Special Event
Envisioned Operations

- Transportation network is monitored
- Event is detected
- Event is entered into ATMS then pushed out to available dissemination channels
- Event is monitored and updated
- New special event traffic data feed is available

Planned Special Event
Stakeholder Feedback / Discussion

- Where does the money come from to provide traffic support?
  - Comes from City
  - There is a fee for permit closures (like running events)
- Who dictates lane closures and direction?
  - Planning ahead of time with traffic engineer.
- State Fair has a traffic operational plan
- Have meeting months in advance for large events (NCAA tournament)
- It is hard to get participants the information that they have options
- DART has special service
- Need special area for ride share company

Planned Special Event
Questions

- How should the new special event traffic data feed operate?
  - What information should be included?
  - Is additional data needed?
  - Is current monitoring capability sufficient?
  - Are there any additional resources needed?
- Are there other tools that could be added to help manage this event?
  - Improved traffic signal timing or adaptive signal control?

Planned Special Event
Stakeholder Feedback / Discussion

- What information needs to go out?
  - Parking locations and availability
  - Delays in real-time
  - Options (transit)
  - Traffic control aspects – lane closures
  - Which lane to use
- Are there monitoring deficiencies?
  - Estimated travel times – Google estimates delay
  - Direct people to open parking spaces
- There are 3 shuttles used to get to the fair
  - DMS boards are used to let people know
- Need to make sure signal timings are set for large groups of pedestrians

Work Zone Management

- Monitor work zone
- Construction activity messaging
- Coordination with work zone crews
- Focus on safety and delay
- Are there new or additional strategies needed?

Work Zone Management
Stakeholder Feedback / Discussion

- Pleasant Hill has University Drive through town – it would be good to know of work zones to get to public
- West Des Moines limits lane closure by time of day
- Small utilities contractors sometimes do not have proper signage/flagger
- Try to get special event coordination along with work zone closures
- Need to focus on pedestrian safety in works zones

Weather Responsive Traffic Management

- Provide information on predicted and prevailing conditions
  - Transportation partners
  - Motorists
- Control technologies to permit or restrict traffic flow and regulate roadway capacity
- Employ resources to treat various weather threats
- Focus on travel information and safety, and roadway treatment
- Are there new or additional strategies needed?

Weather Responsive Traffic Management
Stakeholder Feedback / Discussion

- Public Works closely with school superintendents on closures
- Businesses wait on others to close – need better communication & collaboration
- Keep people off roads when closed and off the roads when travel is not advised
  - It would help to say why road is closed (e.g. bridge is out)

Freight Operations and Management

- Improve freight system efficiency and productivity
- Enhance freight system security
- Are there new or additional strategies needed?

Freight Operations and Management
Stakeholder Feedback / Discussion

- Tracking at rest areas and truck stops on available parking
  - Goes out to 511 and data feeds
  - Multi-state pilot project
- Oversize & Overweight
  - Pre-planned routes

General Event Management
Questions

- Are institutional frameworks sufficient to operate as desired?
- Are there additional agreements/policies needed to enhance multi-agency collaboration/coordination?
- Is there a need for or benefit from shared resources?

General Event Management
Stakeholder Feedback / Discussion

- Re-routing challenges for trucks (height, width restrictions, residential areas)
- Do a good job of pulling everyone together for special events
- Are you actively debriefing?
  - They do for incidents.
- Are you sharing resources?
  - Can a state truck plow a local street if it makes sense or vice versa?
    - Yes and paid on per mile
- Are there agreements for regulated materials (hazmat)?
  - Yes – fire department leads

Freeway Traffic Management

Freeway Traffic Management Concepts

- Monitoring and Data Collection
- Dynamic Shoulder Use/Lane Use Control
- Variable Speed Advisories/Limits
- Queue Warning
- Truck Restrictions
- Ramp Management

Recurring Mainline Congestion Scenario

Event:	Normal peak period congestion on I-35/235/80
Day/Date/Time:	Typical peak period
Conditions:	Reduced speeds all lanes, stop and go on some segments possible

Recurring Congestion

Envisioned Operations

- Reflects “typical” daily congestion resulting in reduced speeds
- Focus on safety and traffic delay
- Operate available tools:
  - DMS to display travel times / incident warnings
  - 511 traveler information
- Future tools
  - Ramp meters on to reduce entering flow (upstream ramps)
  - Variable speed system adjusts advisory speed based on downstream speed
  - Queue warning system warns drivers of back of queue

Recurring Congestion
Questions

- Do the suggested future tools make sense in Des Moines?
- Is it viable to use existing pavement to increase capacity?
  - Restriping lanes
  - Using existing shoulders dynamically (based on conditions)?
- Would truck restrictions ease congestion? Is this politically viable?
- What efforts should be taken to reduce demand before it enters the system?

Recurring Congestion
Stakeholder Feedback / Discussion

- Ramp meters, variable speed advisory, queue warning system
- Queue warning is happening now in works zones
  - Have the ability to expand to other locations
- Special events need ramp meters
- Dynamic shoulder usage?
  - PD – in the areas it is needed, the shoulders are not there
- Truck restrictions?
  - Iowa 5 could be used for truck traffic
  - I-80/I-35 carries most of the trucks
- Cameras / Detection?
  - Have full coverage, but sometimes camera is pointing in wrong direction. Would have to double cameras to see both directions at once
  - Use INRIX probe data
- Efforts to reduce demand?
  - Past initiatives related to I-235 gave incentives to businesses
  - Opportunities for park and ride
  - DOT is trying to advance some pilot projects to change travel demand to spread demand

Ramp Terminal Treatment (Queueing/Spillback) Scenario

Event:	Heavy off-ramp volumes causing spill back onto the freeway
Day/Date/Time:	Monday, April 6th, 2020, 5:10pm
Conditions:	Vehicles traveling at posted speeds approaching slowing or stopped traffic in the right lanes. High variation in speeds across freeway lanes at off-ramp location. Significant freeway delays result.

Ramp Terminal Treatment
Envisioned Operations

- System monitoring and information dissemination
- Added exit ramp capacity
  - Signal re-timing
  - Queue detection to trigger timing changes
  - Ramp lane reallocation at intersection
  - Additional lanes through restriping or new pavement
- Mainline queue warning

Ramp Queuing/Spillback
Questions

- How should ramp queues be detected/monitored?
- Are there other actions that should be considered to mitigate queue spillback?
- Are there improvements that might be needed on the freeway?

Ramp Queuing / Spillback
Stakeholder Feedback / Discussion

- Prioritizing access for HOV
- Look at the entire corridor for signal timings
- Sometimes an incident on the corridor causes backups at the ramp terminal
- Ramp capacity is an issue
- How are ramp queues detected and monitored today?
  - Cameras and traffic operators
  - Sometimes get public complaints
    - Have operators watch that area
  - On-ramp between E. 6th and E. 14th limits interactions
- Limit the number of parking garages being built – Land use discussion
- Are there freeway improvements?
  - Can add portable sensor and sign to warn freeway or add permanent
  - Some discussion at WB 35/80
- I-80 eastbound to 65 south to high speed exit – people slow down on exit ramp

Arterial Traffic Management Scenarios

Arterial Traffic Management Concepts

- Traffic Signal Management
- Parking Management
- Public Transportation
- Bicycles and Pedestrians

Recurring Arterial Congestion Scenario

Event:	Normal peak period congestion on a major arterial
Day/Date/Time:	Typical peak period
Conditions:	Reduced signal efficiency resulting in slower than normal traffic speeds, increased number of stops increased and reduced transit efficiency

Recurring Arterial Congestion
Envisioned Operations

- Reflects regular congestion that is known to occur at specific times and locations
- Focus on periodic adjustments to signal timing to reflect conditions occurring at this time
- Operate available tools:
  - Traffic signal plans and technologies
  - Demand reduction tools such as parking guidance, pricing controls and improvements to transit operations.

Recurring Arterial Congestion
Questions

- What resources are available to optimize traffic signal operations?
- Can we more effectively coordinate signal operations across jurisdictional boundary?
- What might be needed to continually monitor traffic signal performance across agency boundaries?
- What agreements or institutional arrangements are need for multi-jurisdictional signal optimization?

Recurring Arterial Congestion
Stakeholder Feedback / Discussion

- What resources are available to optimize traffic signal operations?
  - West Des Moines has implemented adaptive and have a TMC
    - Started at Jordan Creek Mall in 2011 and expanded there
  - Get resident complaints
  - Ankeny is doing a retiming project
  - DOT and InTrans putting together working group based on signal performance data ATSPMs
  - West Des Moines, Ankeny, and Des Moines have traffic staff – other communities rely on consultants
- Coordination across jurisdictional boundaries?
  - Does not happen
  - West Des Moines and western suburbs are developing strategy for signal coordination
  - Each community has their own system
  - Is there an interest in tracking regional signal system?
    - When agencies are updating their equipment can they look at which ones can coordinate with others
    - Make sure the signals that are getting upgraded are able compatible with future technologies
    - Have input on own system but have a global perspective as well

Recurring Arterial Congestion
Questions

- Is parking guidance considered beneficial? How would we identify lots/structures with available parking information?
- What types of transit improvements should we focus on?
- What bike/ped strategies are needed?

Recurring Arterial Congestion
Stakeholder Feedback / Discussion

- Parking Guidance?
  - Other places need parking management
- Transit
  - General investment in transit – need better headways to attract more customers
  - Do not have transit signal priority
    - In Des Moines ITS Plan
  - Only appropriate in congested corridors with high transit usage
- Bike/Pedestrian
  - Has to do with connectivity and safety
  - Trail system through Des Moines is well used
  - Downtown Des Moines has some physical separation of motorized and non-motorized
  - Have b-cycle – look for expansion

Non-Recurring Arterial Congestion Scenario

Event:	Black Friday Shopping @ Jordan Creek Mall
Day/Date/Time:	Friday, November 27th, 2020, 5:16am
Conditions:	Heavier than normal traffic volumes on routes connecting the mall and I-80

Non-Recurring Arterial Congestion
Envisioned Operations

- Reflects irregular or unusual congestion
- Continual adjustments to signal timing based on measured conditions in near real-time
- Traffic signal operation monitored (if functionality allows) and operational data collected/stored (dependent on technology)
- Automatically adjusts traffic signal timing to adjust to changing conditions

Non Recurring Arterial Congestion
Questions

- How do we better adjust traffic signal timing / coordinate traffic signals for dynamic conditions?
  - Demand rebalancing between freeway and arterial?
  - Unique/unknown conditions such as incidents, weather, heavy truck volumes, emergency vehicle preemption, special events?
- How do we prioritize routes for study/implementation?
- How do we improve agency cooperation for arterial routes spanning multiple jurisdictions?

Non Recurring Arterial Congestion
Stakeholder Feedback / Discussion

- How do you prioritize routes for traffic signal improvements?
  - Volumes
  - Near interchanges
  - MPO has a traffic management advisory committee
  - Intersection geometrics can also create bottlenecks at intersections
  - Consider developing pedestrian activated signal standards for the area – so it is more standard across the area (flashing yellow arrow) – develop regional preferences

Traveler Information Scenarios

Traveler Information Concepts

- Travel Time Messaging
- Dynamic Speed Advisories
- Queue Warning

Freeway Construction Scenario

Event:	I-235 mainline resurfacing project
Day/Date/Time:	April – October, 2020
Conditions:	On-going lane closures resulting in continual slow traffic and lengthy delays during non-peak periods

Freeway Construction
Envisioned Operations

- Actively monitor work zone queues, focusing on work zone and end of queue
- Focus on safety and travel delay
- Activate and update DMS messaging
- Operate technologies to mitigate incidents
- Coordinate with other entities for work zone related response
- Assist with detour planning

Freeway Construction
Stakeholder Feedback / Discussion

- Night work on freeway is very beneficial from a traffic standpoint
- 511 system sometimes is not up to date. Shows construction but there is no construction that day.
  - Smart traffic barrels?
  - App for traffic control inspectors?
  - Talking about automating the Arrow Boards
  - Press release for major work

Freeway Construction
Questions

- Is the intent to reduce speeds heading into work zone queues?
- Is the intent to actively warn motorists approaching queues?
- How will alerts be issued?
  - How will they be entered into 511?
  - What other outlets will be used (Pre-trip and En-route)
- Will motorists be presented with alternate route information?
  - What information will be provided?
  - Where does this information originate?

Freeway Construction
Stakeholder Feedback / Discussion

- Reduce speeds heading into work zone?
  - Implement extra work zones
  - Have done speed feedback trailers
  - Has anyone been using zipper merge?
    - Going to use it on the I-70 bridge
- Warning of queue?
  - Currently provide sensors with warning signs
  - Have another project to investigate identification of dangerous slow downs through probe data
- How are alert issued?
  - DMS work well
  - DOT is trying to balance the cost for DMS when they know in vehicle notifications are coming
  - Challenges with getting better information in 511 for work zones
  - Have issues with getting moving work zones entered in 511. Lack of real time coordination
- Do you present alternate routes for work zones?
  - Interstate has TIM routes identified – intended for traffic incidents
- 511 is just state routes – a unified system that has county and city information would be nice.

ICM Programmatic Questions

- What should agency responsibilities be in the overall ICM program?
- Who will champion ICM development, implementation, operations, and maintenance activities?
- How will program oversight be conducted?
- How will the system be operated?
- Will agreements be needed?
- What policy or legislative actions may be required?
- How strategies be selected/implemented?
- How will performance be monitored and improved?

ICM Programmatic Topics
Stakeholder Feedback / Discussion

- Agency Responsibilities
  - State Patrol – They should have input onto certain strategies
  - Who should be the lead?
    - Everyone will have a stake
    - DOT should be the facilitator
  - Consortium – someone from each agency
    - Strategic team – oversight committee
    - Integrated Corridor Management Team
      - They would prioritize strategize
      - Funding commitments
      - Maintenance and management of system
      - How are you going to operate the system
      - Recommending policies
      - Have task forces and subcommittees for a particular area
        - Need people that can get stuff done
    - Should there be a formal agreement?
      - Yes
        - Roles & responsibilities
    - Maybe leverage the MPO's traffic management advisory committee
- Who should be the ICM development champions?
  - This group

ICM Programmatic Topics
Stakeholder Feedback / Discussion

- How should the ICM be managed / operated?
  - Example – multi-agency signal re-timing program?
    - Lead agency would need to be responsible
    - Phase in policies for wide spread dissemination
- How will performance be monitored and improved?
  - There should be a specific performance monitoring program
  - Goals should be tied to performance measures
  - Should there be a performance management group that helps put it together?
    - DOT is currently determine how to measure
    - MPO has goals in long-range plan
- Who has final decision making power?
  - What things are done by consensus, what things needed voted on?
- Core agencies – involved on day to day items
- Outer ring – supporting agencies as needed
- There is probably going to be an educational piece for policy makers
- FHWA has a peer-to-peer program
- Show data from ICM communities
- Celebrate your successes

Wrap-up

Next Steps

- Summarize/analyze workshop results
- Develop DRAFT Concept of Operations Document

Questions and Feedback

Iowa DOT Project Manager: Neal Fobian
neal.fobian@iowadot.us

Consultant Team: Les Jacobson (WSP Project Manager)
les.jacobson@wsp.com

Will Sharp (HDR Project Manager)
william.sharp@hdrinc.com