Des Moines ICM Project Update

September 2020

IOWA DOT
GETTING YOU THERE

INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

What is Integrated Corridor Management?

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

What is ICM?

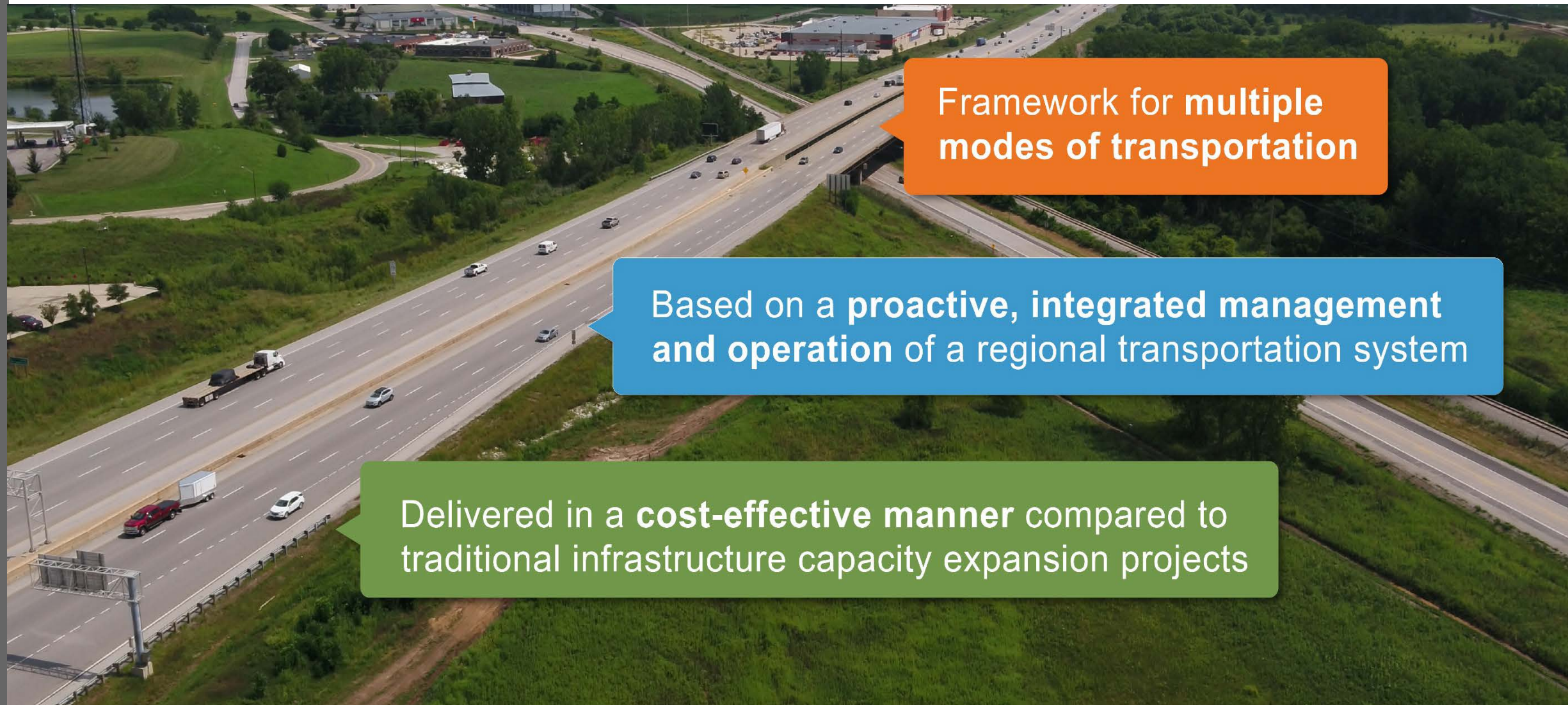
IOWA DOT
GETTING YOU THERE

WHAT IS IT?

INTEGRATED CORRIDOR MANAGEMENT

Integrated Corridor Management

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA



Project Goals

Collaboration is key

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Why ICM?

IOWA DOT
GETTING YOU THERE

INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Des Moines Area Congestion

"From 1990 to 2017, the city of Des Moines grew 12%, to 217,106 people, according to the Iowa State Data Center…But the growth of other cities in the metro area was far greater.

Waukee grew nearly eightfold to 20,680 people in 2017. Ankeny more than tripled to 65,284. West Des Moines more than doubled to 65,562."

- Des Moines Register, October 24, 2019

IOWA DOT
GETTING YOU THERE

WHY DES MOINES NEEDS
INTEGRATED CORRIDOR MANAGEMENT

Identified 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- Poor/outdated signal timing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

Why ICM for Des Moines Metropolitan Area?

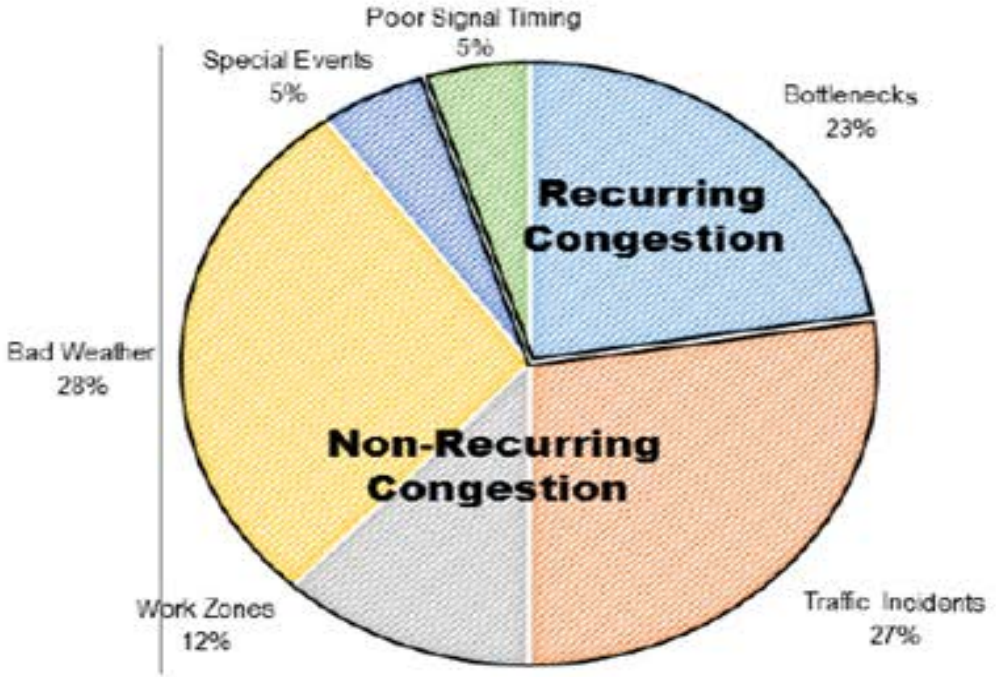


FIGURE 1. IOWA SOURCES OF CONGESTION, 2013-2015

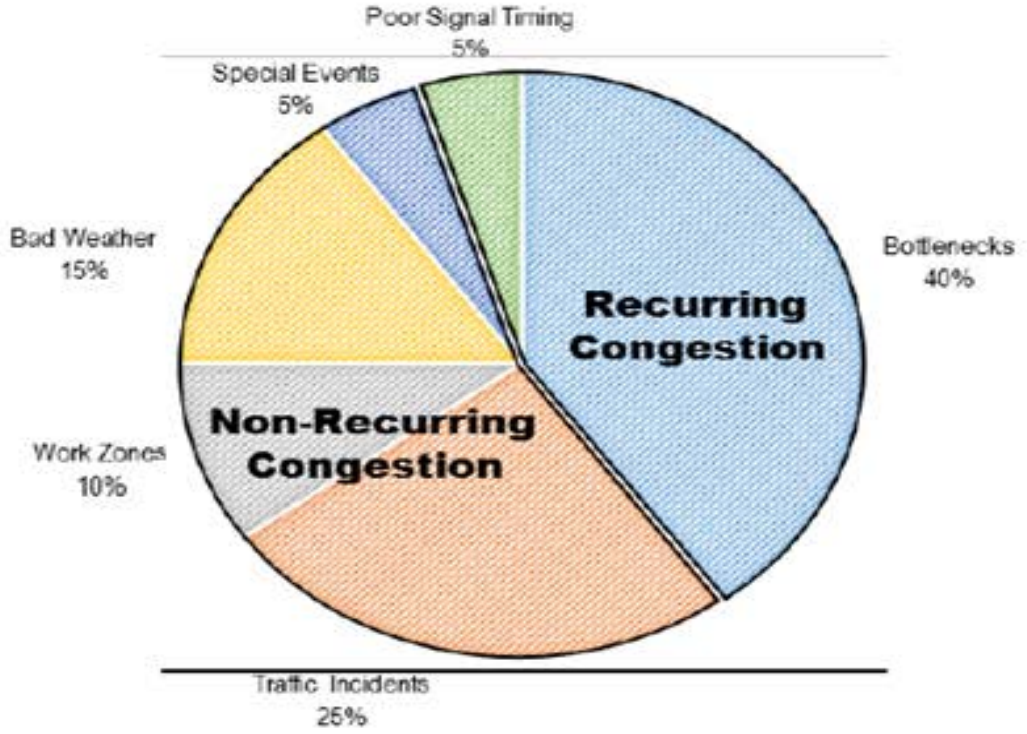


FIGURE 2. NATIONAL SOURCES OF TRAFFIC CONGESTION, 2005 (Cambridge Systematics, 2005)

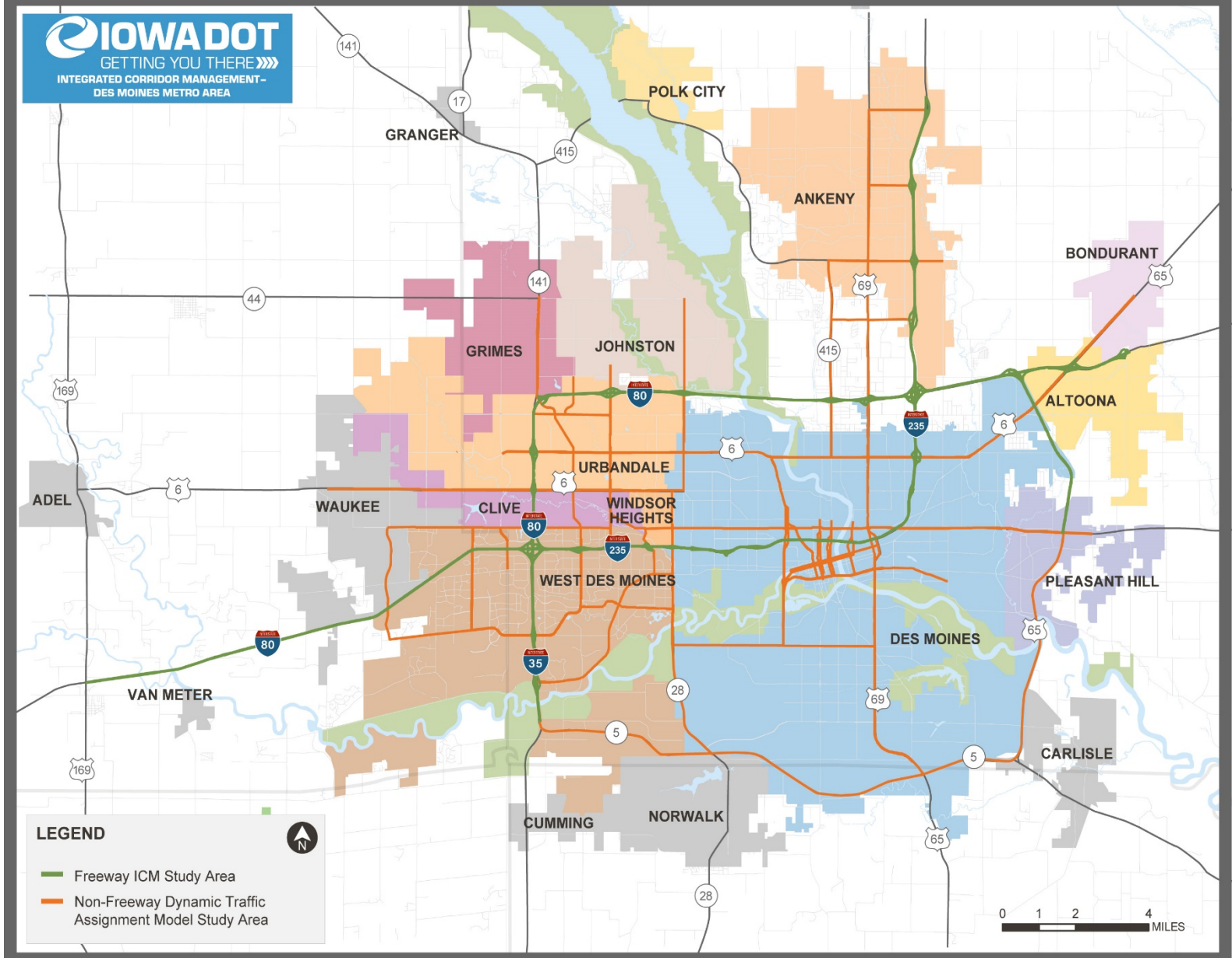
Deploying ICM for Des Moines

IOWA DOT
GETTING YOU THERE

INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Project Boundaries

- Primary Freeway
  - I-80
  - I-35
  - I-235
  - Portions of US 65
- Secondary
  - Selected parallel and connecting arterials to the roadways above.



OCTOBER 2018
DES MOINES ICM KICK-OFF

NOVEMBER 2019
PHASE 1 STRATEGIES READY FOR APPROVAL

WINTER 2019/2020
IOWA DOT PROGRAMMING EARLY WINS

FALL 2020
KICK-OFF ICM PROGRAM COMMITTEES

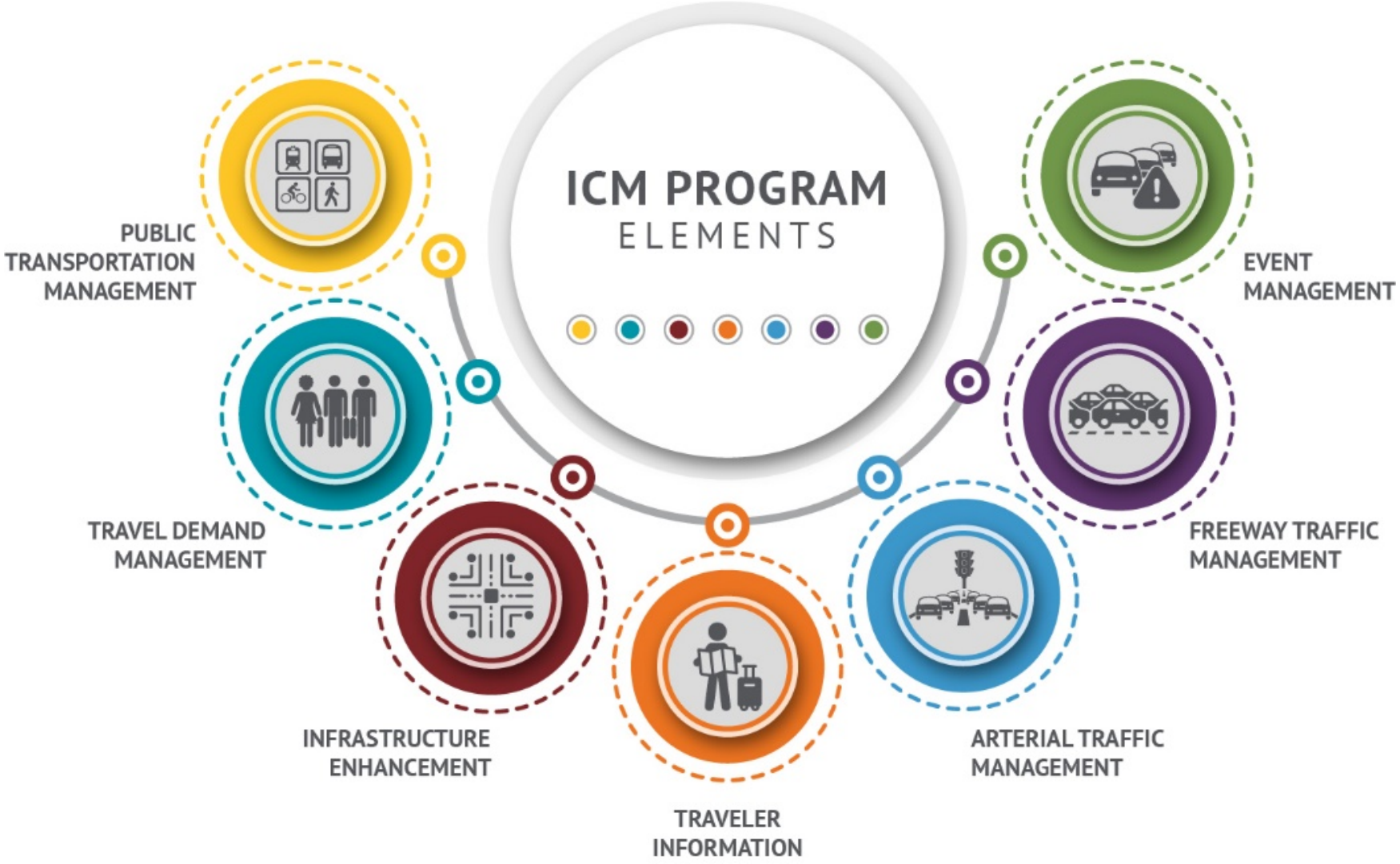
WINTER/SPRING 2021
STAKEHOLDER AND ONLINE PUBLIC MEETING

JULY 2021
IMPLEMENTATION

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.

ICM Program Elements



ICM Strategies

IOWA DOT
GETTING YOU THERE

STRATEGIES FOR
INTEGRATED CORRIDOR MANAGEMENT

Representative ICM Benefits

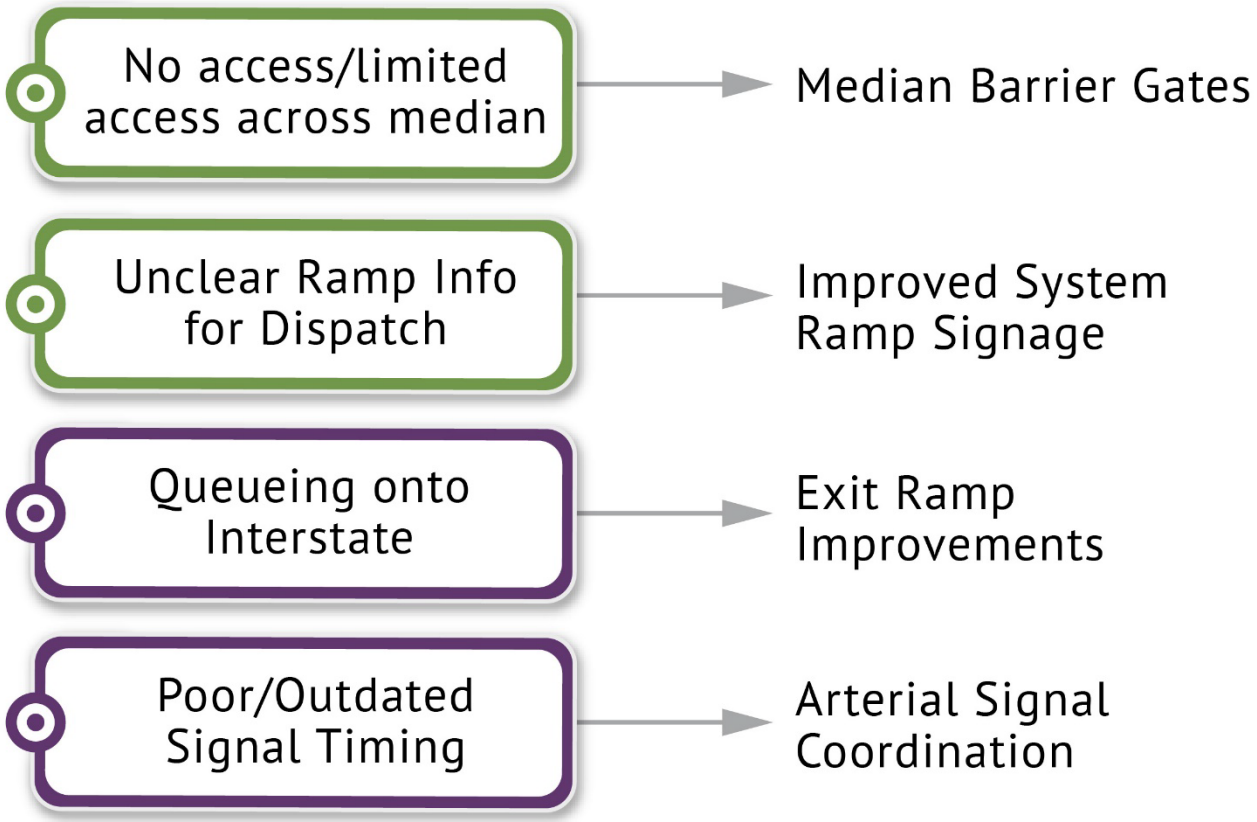
- Improved Safety and Emergency Response
- Improved Accessibility and Mobility
- Reduced or Shifted Demand
- Enhanced Traveler Choice and Decision Making
- Increased Return on and Use of Existing Investment
- Improved Transportation Efficiency and Productivity
- Improved Customer Experience and Perception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

Initial ICM Deployments

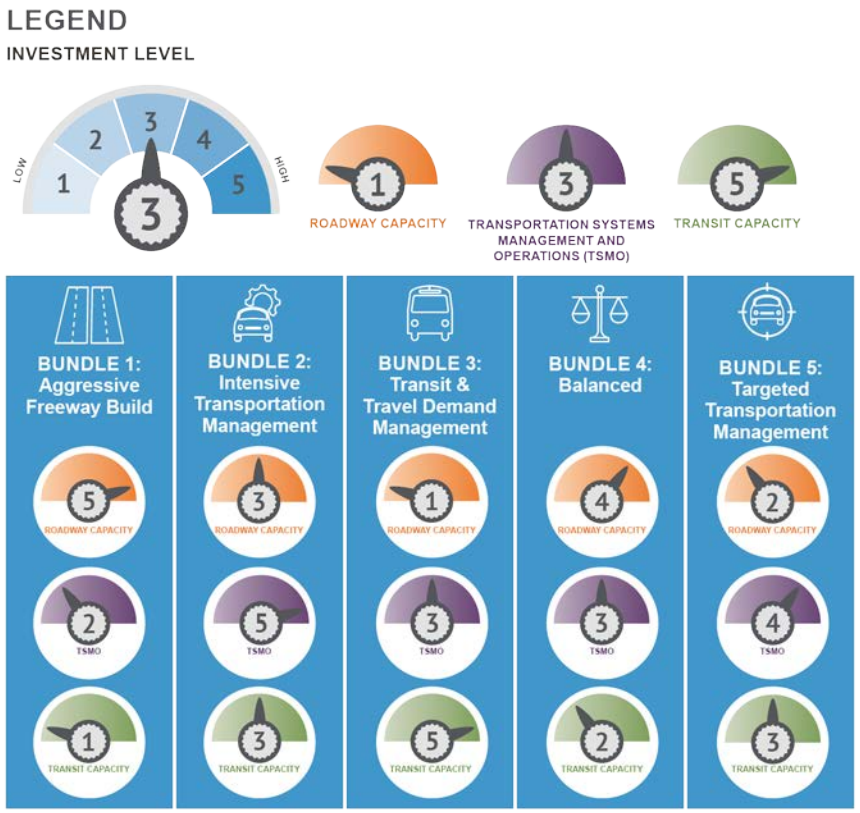
INITIAL DEPLOYMENTS FOR
INTEGRATED CORRIDOR MANAGEMENT

Near Term Strategies

- Address identified issues
- Quickly, cost effectively implementable



Mid-to-Long Term Strategies



FULLY INCORPORATED

PARTIALLY INCORPORATED

MINIMALLY OR NOT INCORPORATED

		BUNDLE 1: Aggressive Freeway Build	BUNDLE 2: Intensive Transportation Management	BUNDLE 3: Transit & Travel Demand Management	BUNDLE 4: Balanced	BUNDLE 5: Targeted Transportation Management
Fundamental Technology	Basic/Enhanced Traffic Data & Communication	●	●	●	●	●
		◐	●	◐	●	●
Event Management	TIM, Work Zone, Special Events	●	●	●	●	●
Freeway Traffic Management	Active Traffic Management	◐	●	◐	◐	●
Arterial Traffic Management	Traffic Signal Coordination and Control	●	●	●	●	●
	Parking Management	○	●	●	○	○
Traveler Information	Enhanced Traveler Information	○	●	●	●	●
Infrastructure Enhancement	Location Specific Infrastructure Enhancement	●	●	○	●	◐
Travel Demand Management	Public/Private Travel Management	○	●	●	◐	◐
Public Transportation Management	Transit Operations Enhancement	○	●	●	◐	◐
	Transit Preferential Treatment	○	●	●	◐	◐

IOWA DOT
GETTING YOU THERE

INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

ICM Approach

BUNDLE 1: Aggressive Freeway Build	BUNDLE 2: Intensive Transportation Management	BUNDLE 3: Transit & Travel Demand Management	BUNDLE 4: Balanced	BUNDLE 5: Targeted Transportation Management
$112 M – ICM $2.65 B – DOT Capacity Expansion **$2.76 B - Total**	$457 M – ICM $387 M – DOT Capacity Expansion **$844 M - Total**	$229 M – ICM $72 M – DOT Capacity Expansion **$301 M - Total**	$258 M – ICM $2.04 B+ – DOT Capacity Expansion **$2.30 B - Total**	$406 M – ICM $72 M – DOT Capacity Expansion **$478 M - Total**

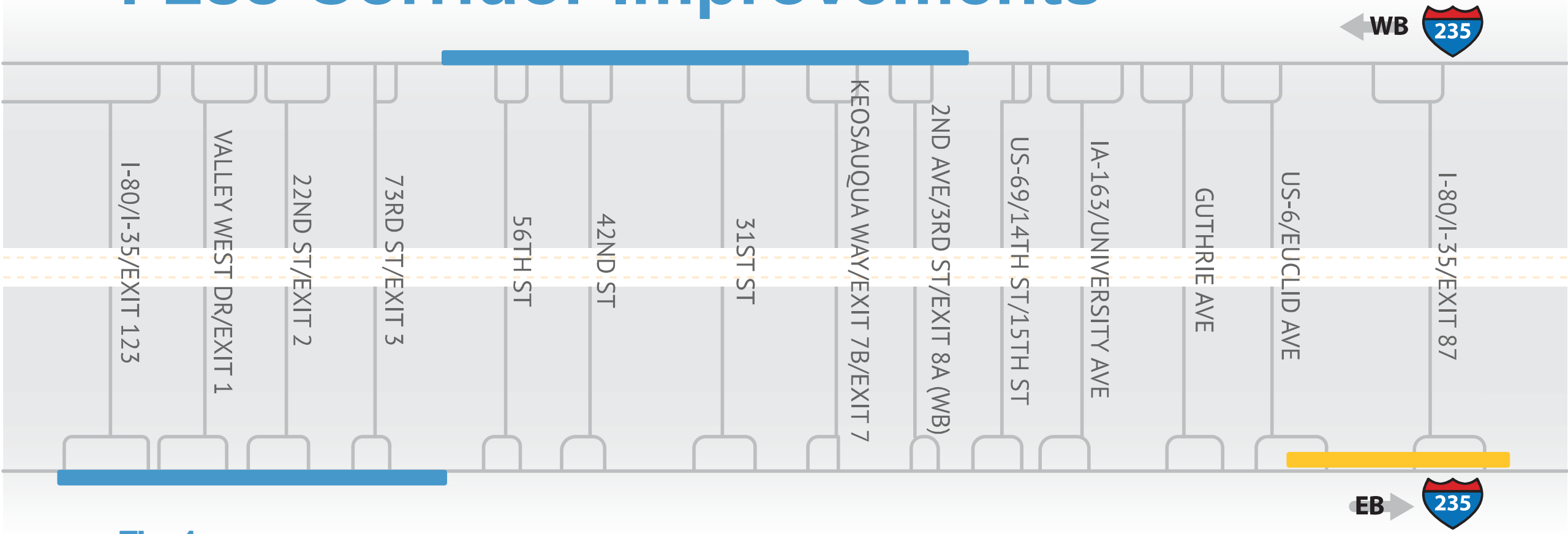
Advanced Freeway Management

Peak Period Shoulder Use

Queue Warning

Ramp Metering

I-235 Corridor Improvements

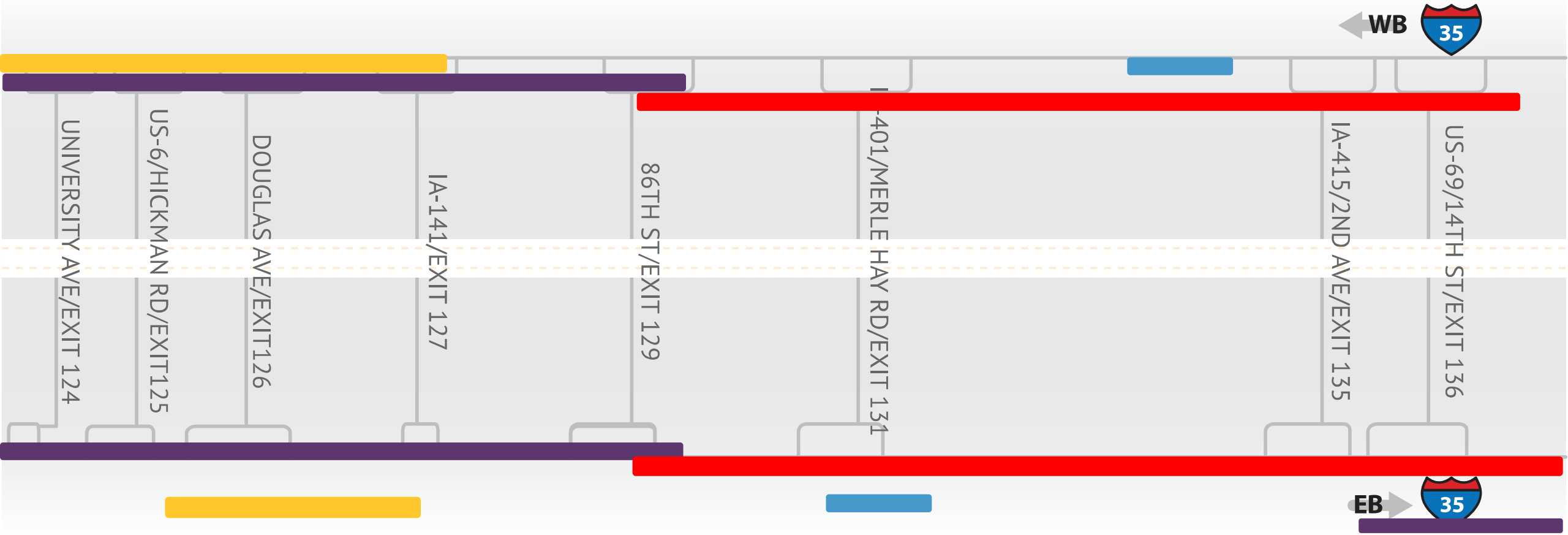


Tier 1
Ramp Metering

Tier 1
Queue Warning
[North on I-35]

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

I-35 / I-80 Corridor Improvements



Tier 1 Ramp Metering

Tier 1 Queue Warning

Tier 1 Peak Period Shoulder Use [East through NEMM]

DOT Planned Improvement

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Traffic Signal Control

- Funding Optimization Regularly
- Plan Adaptive Deployments
- Implement targeted Transit Signal Priority
- Expand Regional Optimization Process

Infrastructure Enhancement - Arterials

- Alternative Intersections
  - Primary Intersections
- Access Management
  - Minor Intersections
- Develop new bottleneck removal prioritization process

Continuous Flow Intersection, UDOT

Transportation Demand Management

- Reinvest in the past demand management campaigns
- Advertised / On-Demand to Employers
- Support Vanpool, Transit, Non-Motorized, and Telecommute Options

Engagement Schedule

FALL 2020
COMMITTEE MEETINGS BEGIN

WINTER 2020
PUBLISH MID-TO-LONG TERM STRATEGIES REPORT

ONLINE STAKEHOLDER MEETING

VIRTUAL PEER EXCHANGE

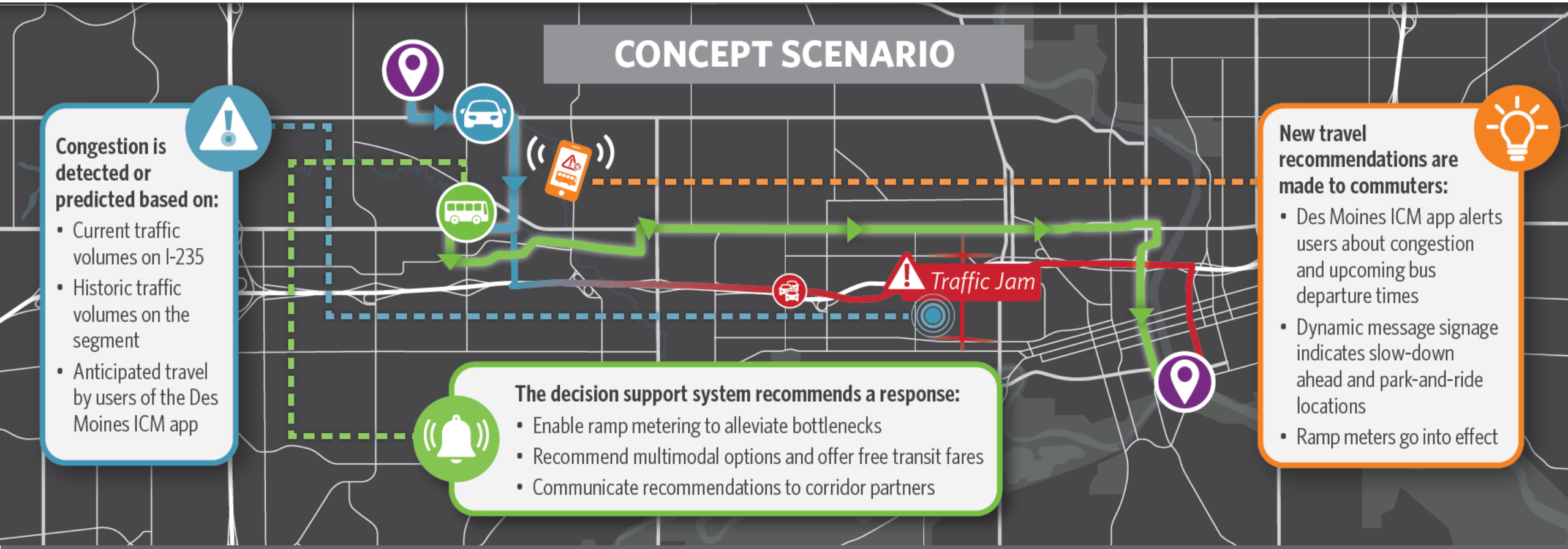
EARLY SPRING 2021
PUBLIC AWARENESS CAMPAIGN BEGINS

EARLY SUMMER 2021
PROGRAM CHARTER MEETING

Goals

- Win BUILD, ATCMTD, or INFRA in 2021
- One or more early non-freeway project programmed by DOT + locals
- Positive public perception of ICM – particularly ramp metering

Build ICM Support – Traveler App



Summary

Summary

- ICM proactively manages the existing transportation system
  - More cost-effective than traditional improvements

- Near-term ICM strategies address existing needs & are being piloted in the first 2 to 3 years of the program.

- Mid-to-Long term ICM implementation will support projects that strategically balance system optimization and added capacity.

Coming Fall 2020 – ICM Program Launch

More Information

- Visit: https://iowadot.gov/desmoinesicm
- Sign up for notifications
- Watch and share the ICM video with your colleagues/employees
- Stay tuned! Watch for big announcements

IOWA DOT
GETTING YOU THERE
INTEGRATED CORRIDOR MANAGEMENT–
DES MOINES METRO AREA

Questions?

Iowa DOT Project Manager: Neal Fobian

neal.fobian@iowadot.us