MMM GROUP

Introducing Western Canada Jurisdictions to VE – Manitoba and Saskatchewan

2011 CSVA Conference

COMMUNITIES

TRANSPORTATION

BUILDINGS

INFRASTRUCTURE

Outline

- Manitoba VE Experience
- Saskatchewan VE Experience
- Highway 1 and Lewvan Drive, Regina, Saskatchewan
- Pasqua St & 9th Ave North/Ring Road Interchange & Corridor, Regina
- Highway 1 VA Study, Moose Jaw, Saskatchewan
- Highway 1 and 16 VE Study, Manitoba Infrastructure & Transportation
- Future in Manitoba
- Future in Saskatchewan

Manitoba VE Experience

- Red River Floodway Expansion
- VE Study in 2002
- Multi Work Group Workshop
- Led to Floodway Improvements 2005 to 2010
- No Transportation VE program in Province prior to 2010

Saskatchewan VE Experience

- Limited exposure to Transportation VE/VA prior to 2007
- MMM discussed opportunities for VE with SHI
- Led to first study for Trans Canada Highway at Lewvan Drive in August 2008
- Estevan Truck Route VE Spring 2009
- City of Regina participation on Lewvan Study led to Pasqua VE August 2009
- Moose Jaw Highway 1 VA Study June 2010

Highway 1 Lewvan Drive, Regina, SHI

Highway 1 Lewvan Drive, Regina, SHI

- Assess value of each traffic movement and the cost associated with each configuration;
- Address functional requirements for a long term design horizon and LOS;
- Adapt to change, anticipate needs & provide flexibility;
- Consider Highway 1 corridor functionality from Pinkie Road to East Ring Road connection; and
- Address Lewvan Drive functionality north-south

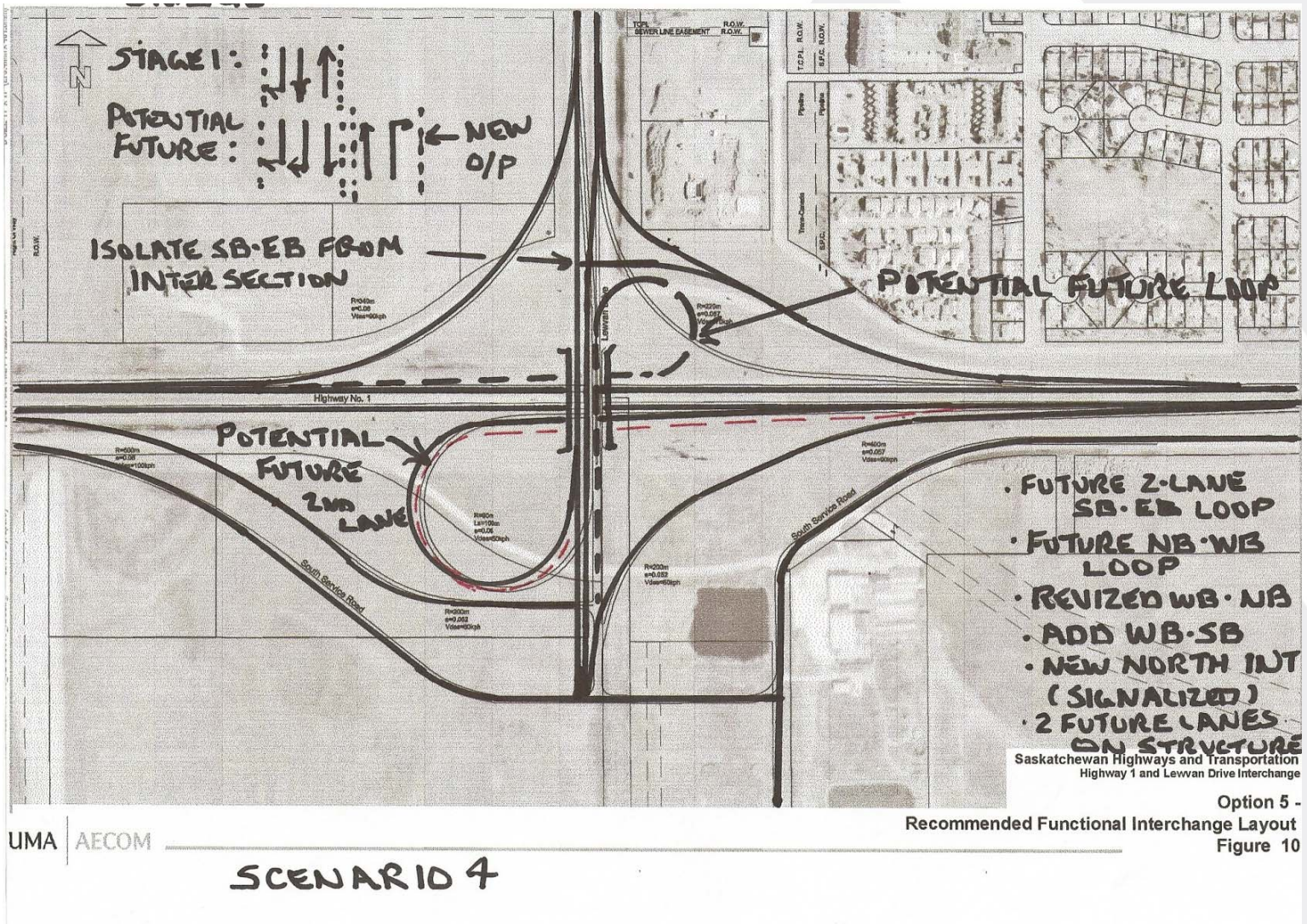
Highway 1 Lewvan Drive, Regina, SHI

- Caltrans Six Step Process used
- 10 Participants, 5 MMM, 3 SHI, 2 City of Regina
- Traffic Modelling performed for Travel Time analysis
- 7 Performance Measures
  - Traffic Operations
  - Safety
  - Travel Time
  - Utilities
  - Property
  - Noise
  - Constructability
- 6 Value Target Areas
  - Interchange
  - Structures
  - TCH Corridor
  - Phasing
  - Access
  - ITS

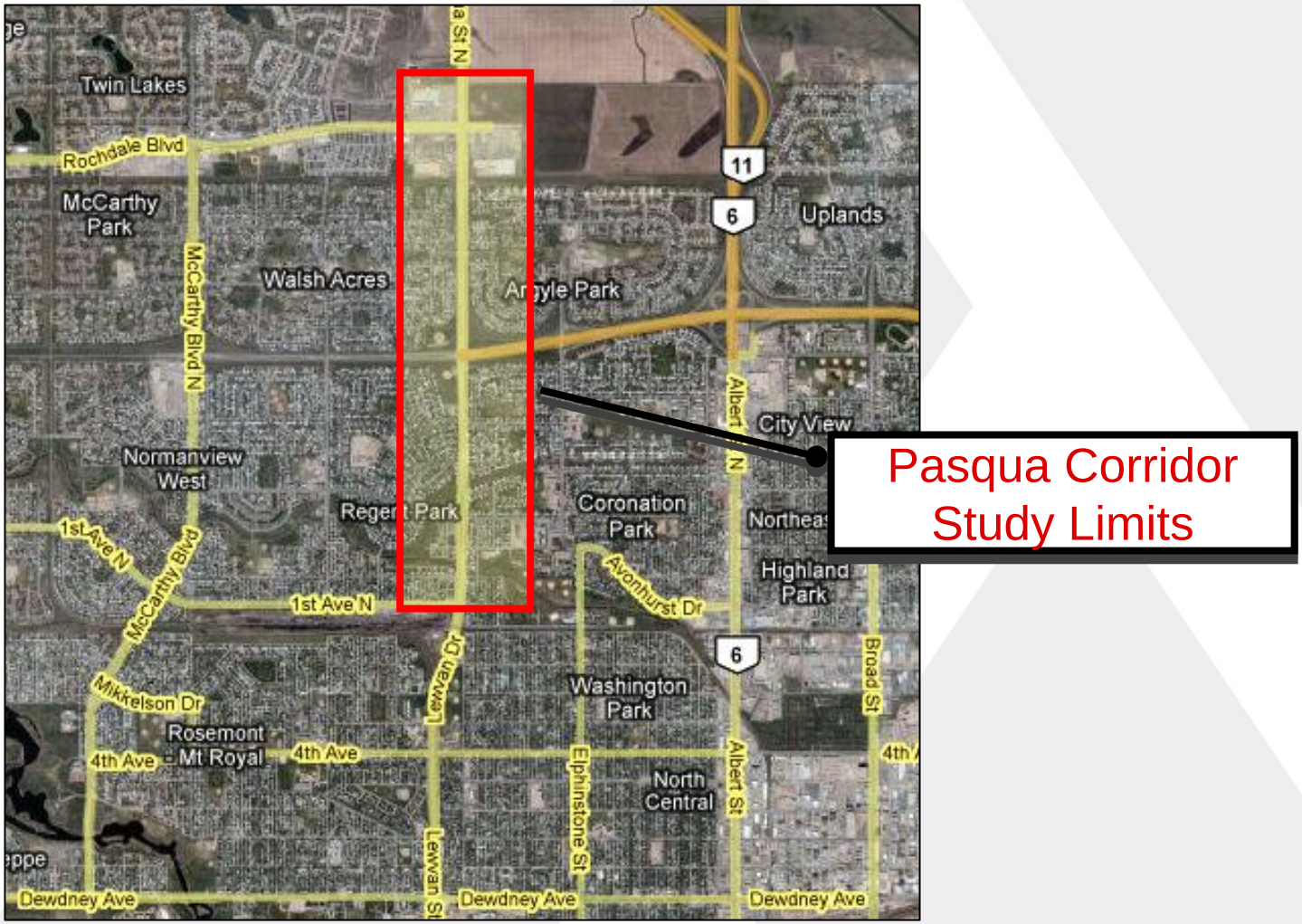
Highway 1 Lewvan Drive, Regina, SHI

- 104 Ideas, 27 Proposals,14 Design Suggestions
- Base Case and 6 Scenarios
- Resulted in Confirmation of Interchange Configuration
  - Provision for access to/from South
  - Validation of layout
  - Deferral of some work
  - $5.9M savings on $34.5M
- Found additional savings
- Addressed planning and political concerns
  - Future access to/from south
  - Allowance for future inland Rail Port

Highway 1 Lewvan Drive, Regina, SHI



Pasqua St & 9th Ave N/Ring Road, Regina



Pasqua St & 9th Ave N/Ring Road, Regina

- Evaluate Options for an interchange for improved Traffic Operations, Safety, Construction Phasing
- Use the interchange design from the previous study as the base case.
- Evaluate at-grade options for an improved intersection at Pasqua and Ring Road to delay the construction of an interchange.
- Address the traffic delays at the intersections along the Pasqua Corridor from Sherwood to Rochdale
- Review opportunities to improve the safety and traffic operations.

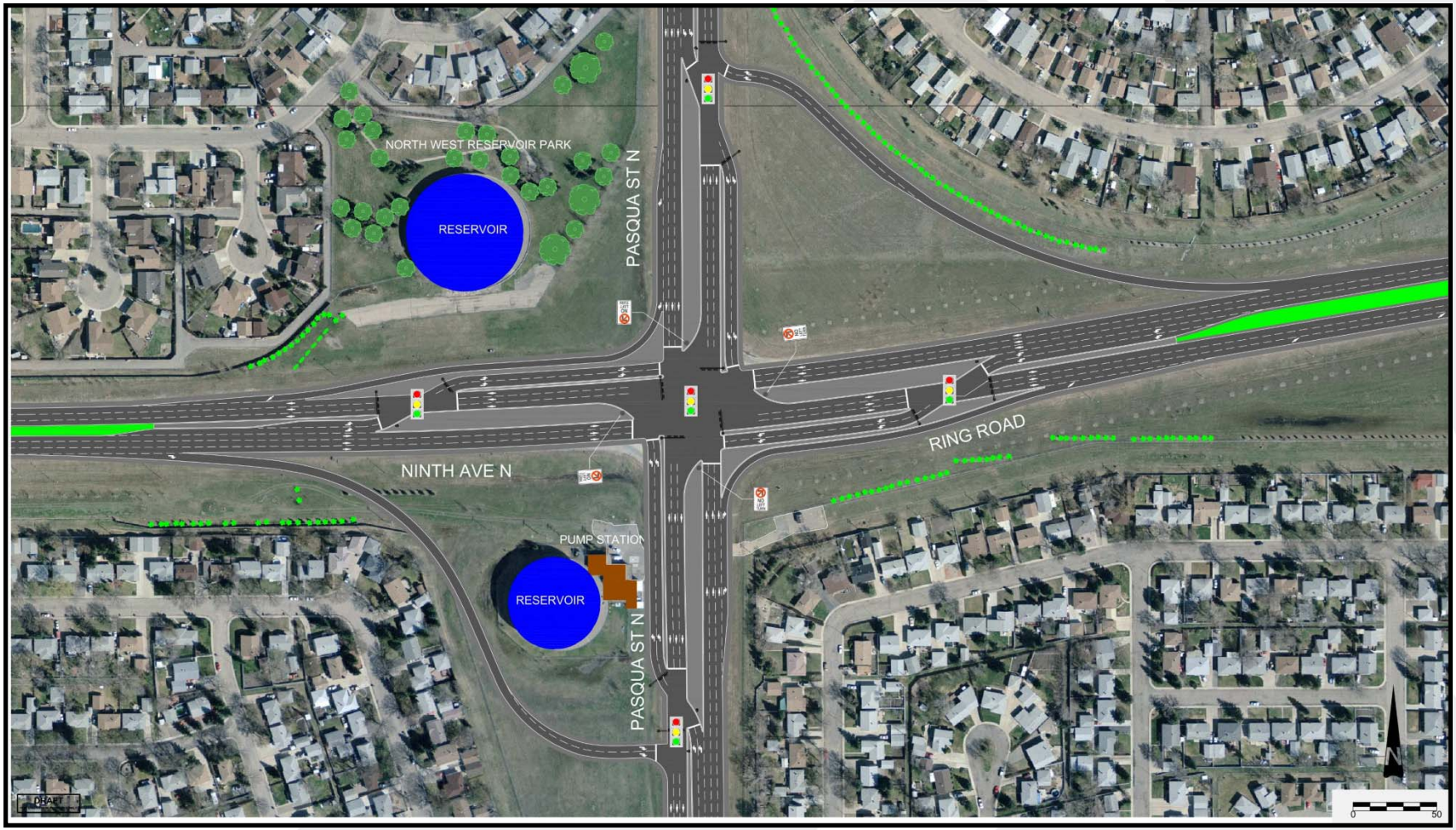
Pasqua St & 9th Ave N/Ring Road, Regina

- Caltrans Six Step Process used
- 11 Participants, 5 MMM, 6 City of Regina
- Traffic Modelling performed prior to study
- Scenarios for traffic addressed pre-workshop
- 7 Performance Measures
  - Traffic Operations
  - Safety
  - Noise
  - Property
  - Constructability
  - Access
  - Phasing
- 5 Value Target Areas
  - Corridor North
  - Corridor South
  - At Grade Intersections
  - Interchanges
  - Cross Sections

Pasqua St & 9th Ave N/Ring Road, Regina

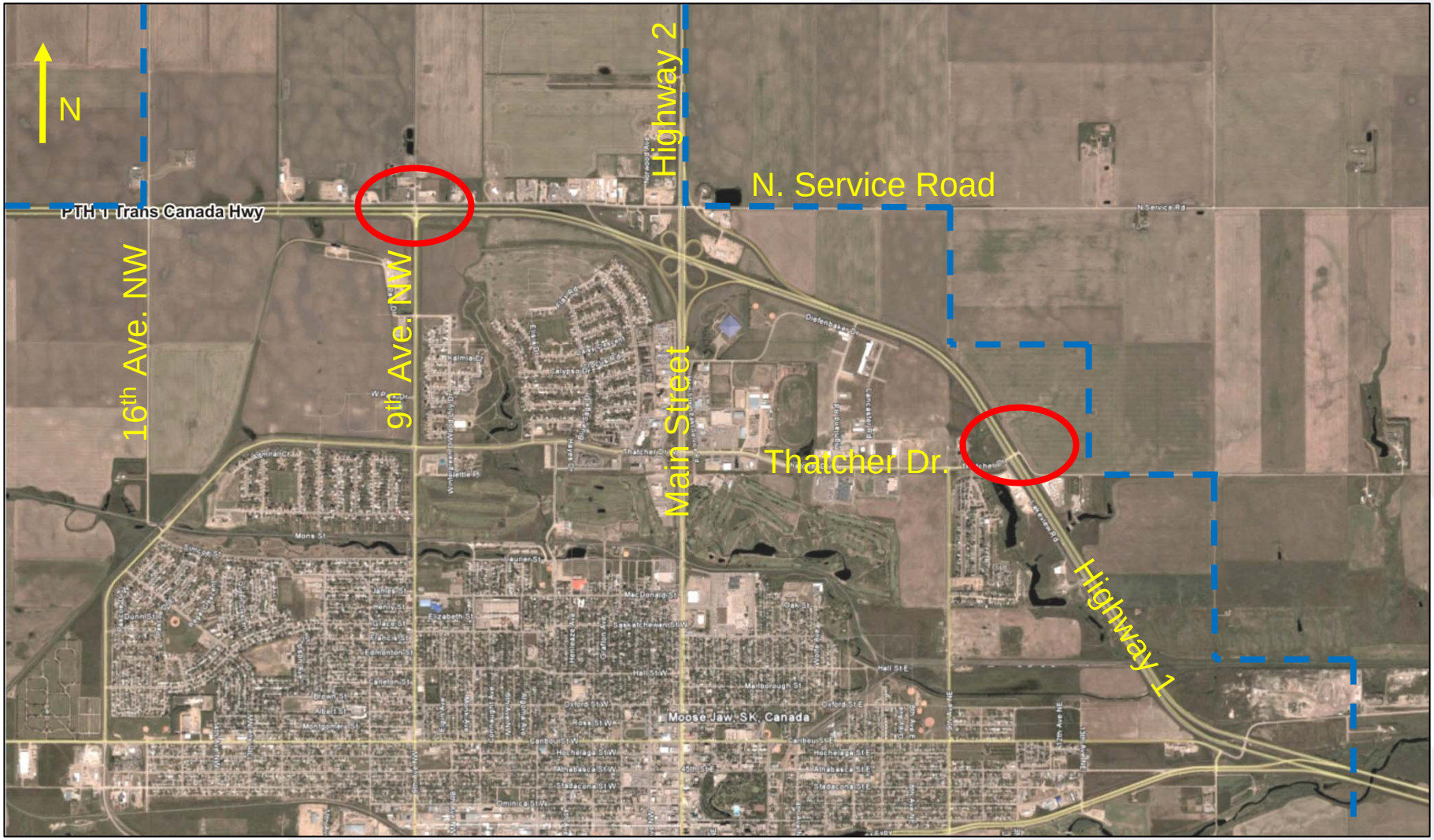
- 121 Ideas, 31 Proposals
  - Diverging diamond interchange
  - XDL Intersection
  - Rotary interchange
- Addressed Value Target considerations
  - Corridor and cross section options
  - Interchange layouts versus intersections
  - $19.2M savings on $23.7M
- Base Case plus 5 Scenarios
- Preferred solution matches traffic flow patterns
- Regina pursing first XDL intersection in Canada

Pasqua St & 9th Ave N/Ring Road, Regina



Highway 1 VA Study, Moose Jaw, SHI

Previously Proposed Grade-Separation



Highway 1 VA Study, Moose Jaw, SHI

- Primary goal:

Develop an ultimate functional plan for the Hwy 1 corridor in the City of Moose Jaw, SK

- Objectives:

Validate interchange locations and medium to long-term plans for the Hwy 1 corridor

Review existing infrastructure and develop ultimate Hwy 1 corridor short and long-term solutions to meet safety and traffic operation requirements

Determine value-base staged implementation of site-specific and corridor improvements

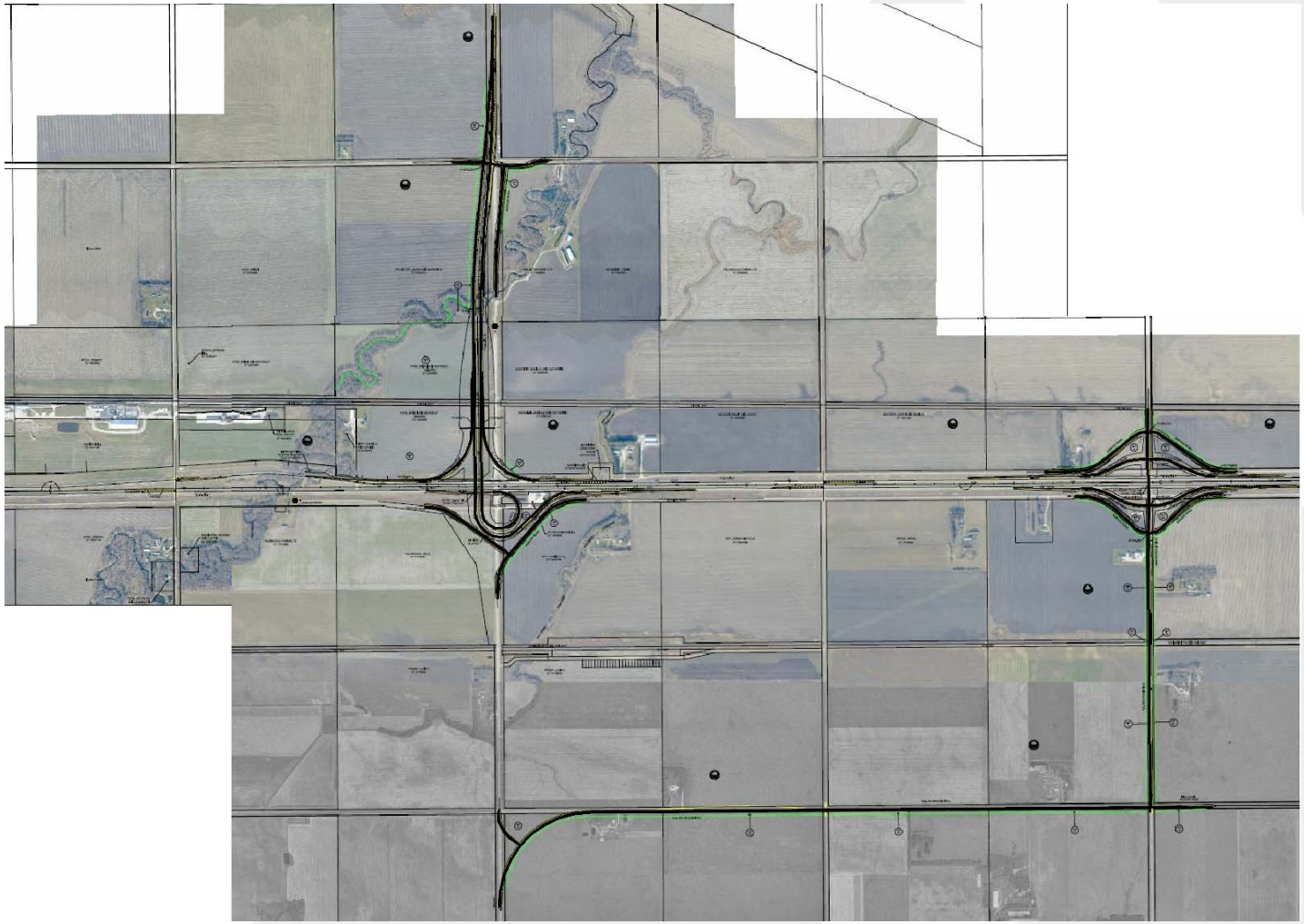
Highway 1 VA Study, Moose Jaw, SHI

- Caltrans Six Step Process used
- 12 Participants, 6 MMM, 2 SHI, 1 Moose Jaw
- Corridor management a major consideration
- Two existing interchanges & two planned facilities
- Land use, safety and traffic are key considerations
- 8 Performance Measures
  - Traffic Operations
  - Safety
  - Phasing
  - Constructability
  - Property
  - Noise
  - Environmental,
  - Cultural
- 6 Value Target Areas
  - Interchanges
  - Service Roads
  - Intersections
  - Traffic Guidance
  - Vertical Clearance
  - Corridor Management

Highway 1 VA Study, Moose Jaw, SHI

- 187 Ideas, 35 Proposals, 50 Design Suggestions
- Addressed two new interchanges
  - Simple cost effective IC access solutions provided
  - Significantly reduced cost of proposals
- Improvements to existing interchanges
  - Upgrade to main IC into Moose Jaw
  - Geometric improvements to Manitoba Ave IC
- 4 Scenarios developed
- Entire corridor improved and access managed for initial proposed cost of the two interchanges
- No savings but entire corridor addressed in terms of corridor management: 2 for 1 deal

Highway 1 and 16 VE Study



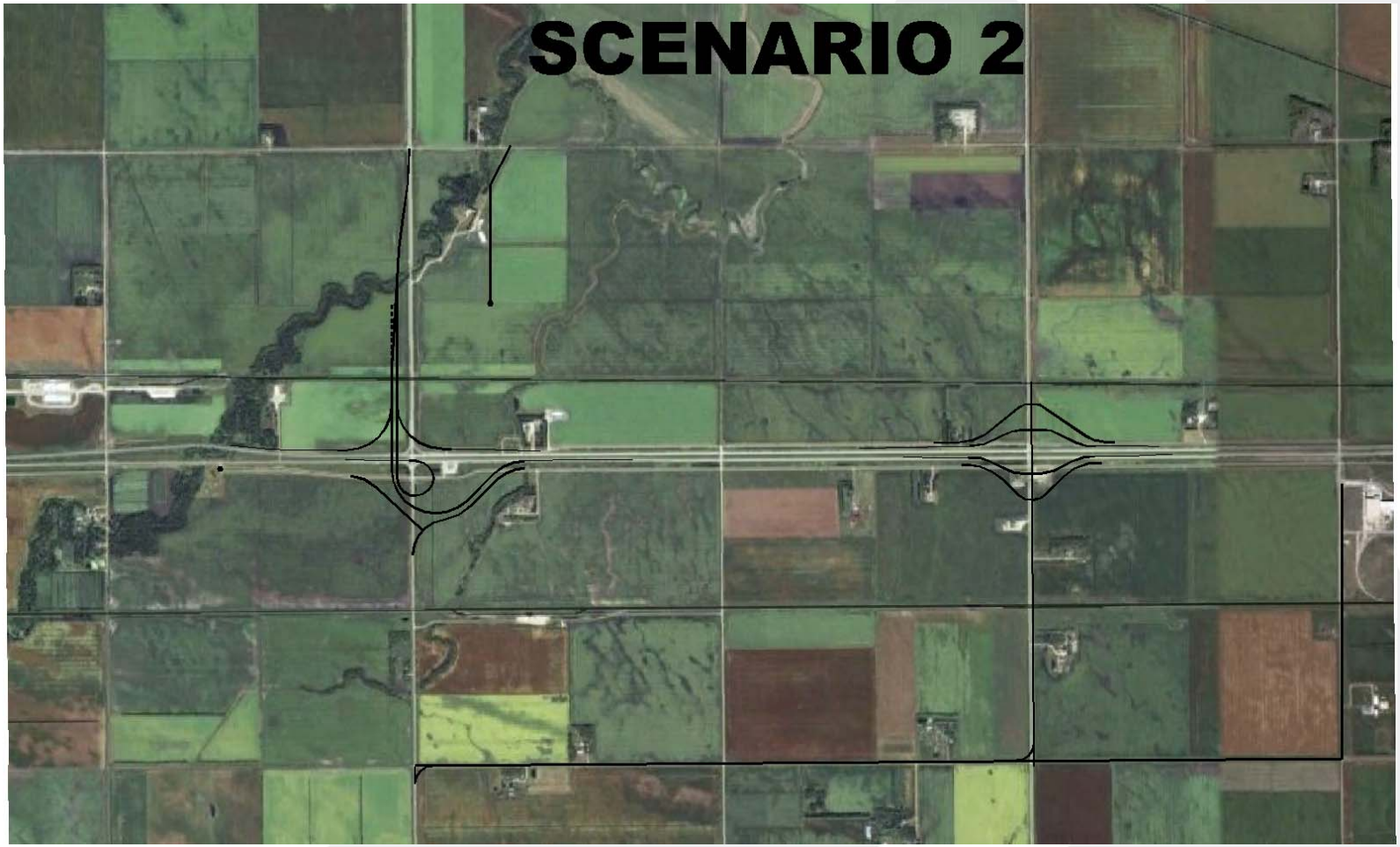
Highway 1 and 16 VE Study

- MIT primary goal:
- Find solutions to provide additional cost savings while maintaining the project objectives and design criteria
- Objectives:
- Maintain free-flow conditions on PTH 1 and PTH 16
- Minimize impacts to Rat Creek
- Avoid impact to Burnside Cemetery
- Provide alternative access for the industrial area (Simplot)

Highway 1 and 16 VE Study

- Caltrans Six Step Process used
- 12 Participants, 6 MMM, 4 MIT, 2 Contractors
- Focus on two interchanges
- Challenge to improve on planning work
- 6 Performance Measures
  - Traffic Operations
  - Safety
  - Phasing
  - Access
  - Environmental
  - Phasing
- 7 Value Target Areas
  - Drainage
  - Environmental
  - Mainline Geometry
  - Ramp Geometry
  - Service Roads
  - Structures
  - Traffic Management

Highway 1 and 16 VE Study



Highway 1 and 16 VE Study

- 67 Ideas, 14 Proposals, 26 Design Suggestions
- Addressed both interchanges
  - Structure eliminated
  - Revised location 4 to 2 lane transition
  - Alternative property access
  - Improved design consistency
  - Improved ramp geometry at increased cost
- Base Case plus 3 Scenarios developed
- Province did a year long preliminary design and cost review to reduce cost from $125M
- VE found $5.3M savings on $85.2M
- Province impressed with process and savings

Future in Manitoba

- MIT will continue with VE
- Applications proposed on major projects
- Timing of VE within project cycle yet to be determined
- Coverts regarding the power and speed of the VE process
- Limited number of major projects in current highways program

Future in Saskatchewan

- Ongoing VE exercises will be considered
- Will be applied to major projects
- Not enough work for a VE steady program
- Will continue on an as and when required basis

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Questions?

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