East-West Corridor Transportation Study

TTCI Project Update

March 19, 2019

WELCOME!

East-West Corridor
Transportation Study

PROJECT SCOPE AND EXPECTATIONS

EXPECTED OUTCOMES OF THE STUDY

To recommend solutions that address safety and improve mobility, efficiency, and connectivity with a focus to facilitate east-west travel for all users of the Road Commission's network. The high levels of congestion and excessive delay for motorists traveling east and west along the five key road corridors is the main driver of the search for solutions.

STUDY PURPOSE AND NEED

- "Upgrade and maintain a safe and efficient road system."
- Reflect the participation and input from local agencies, stakeholders and public.
- Identify safety and efficiency improvements for all modes of travel
- Create a plan that best responds to the needs of all interests for enhancements and accessibility benefits.
- Provide solutions that consider the context of the study area
- Identify solutions for roads GTCRC has jurisdiction over
- Improve system resiliency for peak seasonal events or incident management
- Provide solutions that consider the potential implications to existing and future land use patterns
- Improve accessibility, routing and connectivity for all modes of travel
- Evaluate and incorporate natural and cultural resource conservation best practices into solutions
- Maintain or improve air quality
- Evaluate a package of solutions that can be adopted based on agency budgets and planned or projected financial resources

LOCAL AGENCY AND STAKEHOLDER ENGAGEMENT

Local Agency representatives and stakeholders helped to inform the development of the Purpose and Need and evaluation criteria and provided guidance and feedback on the development of potential options."

Participating Municipalities & Government Services

- Acme Township
- Blair Township
- Bay Area Transportation Authority
- City of Traverse City
- East Bay Township
- Elmwood Township
- Fife Lake Township
- Garfield Township
- Grand Traverse County
- Long Lake Township
- Mayfield Township
- Union Township
- Whitewater Township
- Village of Fife Lake
- Village of Kingsley
- Networks Northwest
- Northwest Regional Airport Commission/Cherry Capital Airport Authority
- Michigan Department of Transportation
- Traverse Bay Area Intermediate School District
- Traverse Transportation Coordinating Initiative (TTCI)
- Traverse City Area Public Schools

Participating Non-Profit and Private Stakeholders

- Manufacturing and Wholesale Distribution
- Fire and Emergency Management Services
- Big Box Retail
- Auto Dealers
- Major Employers
- Construction, Development & Realty
- Health & Human Services
- Utilities, Energy and Shipping
- Environment and Natural Resources
- Multi-Modal Transportation
- Events and Tourism

EAST-WEST CORRIDOR STUDY AREA

Study Area includes:

- City of Traverse City
- Garfield Township
- Blair Township
- East Bay Township

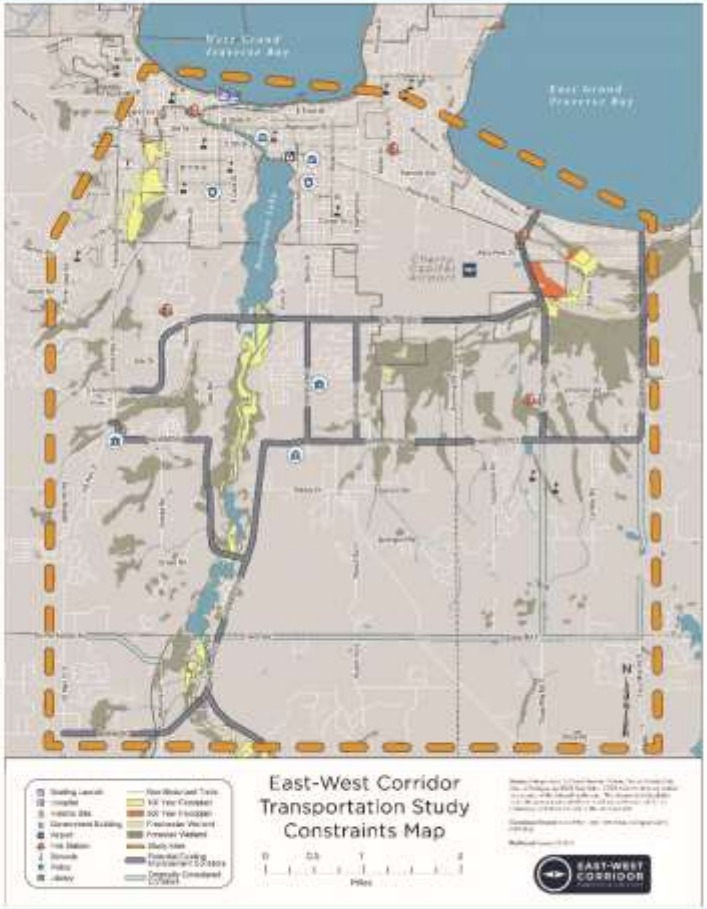
Study Area Boundaries

- M-22/US-31 (North)
- Beitner Road (South)
- Silver Lake Road/US-31 (West)
- 4 Mile Road (East)

Significant roadways that may impact the Study's analysis include GTCRC, MDOT, and local roads.

Potential improvement corridors include only roads under GTCRC jurisdiction

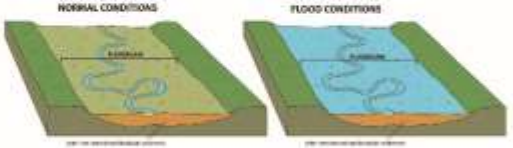
STUDY AREA CONSTRAINTS



Freshwater Wetlands

Forested Wetlands

Floodplain



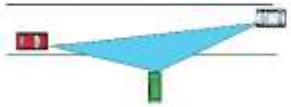
ACCESS MANAGEMENT

WHAT IS ACCESS MANAGEMENT?

Design standards for the number, placement, and spacing of entry and exit points to the property adjacent to a roadway. Agencies can use access management to control access to improve congestion, safety, and dictate land use.

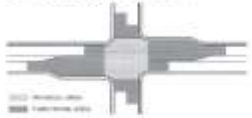
ACCESS MANAGEMENT DESIGN TECHNIQUES

Sight Distance



Vehicles at a driveway should be able to see each other easily from a safe distance.

Driveway Location



Driveways at intersections within the functional area have a higher crash potential and are discouraged.

Driveway Spacing

Driveways should be spaced based on the roadway speed to improve traffic flow and reduce crashes.

Driveway Design

Throat length, turn radii, and other design techniques reduce conflicts between vehicles.

Left Turn Management

Roadway designs to limit left turns will reduce the number of conflict points between vehicles.

Shared Access

Promoting internal movement of vehicles reduces conflict points and improves traffic on the main road.

BENEFITS OF ACCESS MANAGEMENT

- Reduces Traffic Delay and Congestion
- Reduces Crash Potential
- Maximizes Street Capacity
- Helps Improve Site Design
- Can Improve Business Conditions
- Design Techniques Can Beautify Corridor

NON MOTORIZED TREATMENTS

The following sample of treatments could be applied to the final recommendations where and when they are appropriate.

Paved Shoulder

Crosswalk

Sidewalk

Bike Lane

Multi-Use Path

EVALUATION CRITERIA

TRAVEL TIME & OPERATIONS

EVALUATION CRITERIA

Current Congestion Impacts

2015 Peak hour east-west travel time through the Study Area as determined by the Traffic Model.

Future Congestion Impacts

Anticipated east-west travel time through the Study Area in 2025 as determined by the Traffic Model.

Connectivity Improvements

Total number of miles and turns it takes to travel east-west through the Study Area.

FISCAL IMPACT

EVALUATION CRITERIA

Estimated Cost

Estimated cost for right-of-way acquisition and construction of the solution.

Impact to Truck Mobility

Measure of the degree to which truck mobility is improved based on changes in the VMT.

Business Impacts and Relocation

Estimated impact to businesses based on property acquisition, zoning changes, and relocation.

EQUITABLE ACCESS

EVALUATION CRITERIA

Improvement to Transit Access

Opportunities of each solution to improve transit operations or add first/last mile connections.

Improvement to Pedestrian Travel

Increase in length of sidewalks for each solution and consistency with the non-motorized plan.

Improvement to Bicycle Travel

Increase in length of bicycle facilities for each solution and consistency with the non-motorized plan.

LAND USE PLANS

EVALUATION CRITERIA

Consistency With Plans

Probability of a significant change to the planned land use pattern in a corridor.

Employment Area Impacts

Degree to which traffic dispersion would impact existing commercial districts and employment areas.

Residential Area Impacts

Degree to which traffic noise and congestion would impact existing residential areas.

Aesthetics

Measure of how viewsheds of the river and natural landscapes would be impacted.

ENVIRONMENTAL IMPACTS

EVALUATION CRITERIA

Historic Resource Impact

Number of cultural or historic properties impacted by each solution.

Parkland Impact

Total acres of parkland impacted by the construction of each solution.

Environmental Justice Impact

Measure of disproportionate impact to minority and/or low income communities.

Hydrological Resource Impact

Total acres of wetland and/or floodplain fill impacted by each solution.

Right-Of-Way Impact

Total acres of additional land for new right-of-way needed to construct the solution.

CURRENT 2015 TRAFFIC VOLUMES

Based on data from the Grand Vision study, only 4-6% of vehicle trips in Traverse City are actually passing through Traverse City. Previous modeling efforts show that demand into Traverse City along US-31 is virtually unchanged as additional east-west connections are made.

Major demand for the destinations along South Airport Rd is increasing the traffic volumes there.

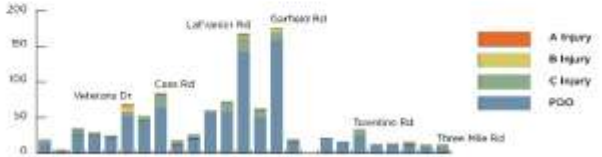
PROJECTED 2025 TRAFFIC VOLUMES

Based on data from the Grand Vision study, only 4-6% of vehicle trips in Traverse City are actually passing through Traverse City. Previous modeling efforts show that demand into Traverse City along US-31 is virtually unchanged as additional east-west connections are made.

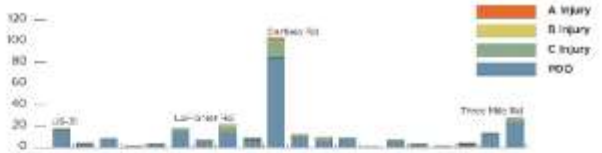
Major demand for the destinations along South Airport Rd is increasing the traffic volumes there.

CRASH ANALYSIS

A crash analysis for the entire study area was completed to identify the high crash location in the region. Two example corridors with highest number of crashes are shown below.



South Airport Road Crashes: 2013 - 2017



Hartman Road/Hammond Road Crashes: 2013 - 2017

- A Injury - Incapacitating Injury: Injury that prevents the injured person from walking, driving, or continuing normal activities
- B Injury - Non-incapacitating Injury: Any injury evident to observers at the scene but that is not incapacitating
- C Injury - Possible Injury: Any injury reported that is not fatal, incapacitating, or non-incapacitating
- PDO Injury - No Injury: No bodily harm was received from the motor vehicle crash

CONCEPTUAL SOLUTIONS

MODIFICATIONS FROM CONCEPTUAL SOLUTIONS TO PRACTICAL SOLUTIONS

- S. Airport Road conceptual solutions were combined
- Hammond Road conceptual solutions were combined
- Cass Road/Hammond Road conceptual solution was combined with the Railroad ROW Alternative
- Existing Beitner Road/Keystone Road/Hammond Road conceptual solution carried forward
- Hoch Road conceptual solutions were dismissed because they did not meet the project Purpose and Need. They do not meet the Local Agency Group's goal of addressing congestion issues traveling into Traverse City, not around.

PRACTICAL SOLUTIONS

S. AIRPORT ROAD CROSSING

PROS

- Closest east-west route over the Boardman River to Traverse City
- Access Management improvements would address safety issues
- Improvements would help with congestion

CONS

- No room to expand roadway
- Boulevard cross section would require additional right-of-way
- Would require entire road redesign
- 'Michigan Lefts' would be required

PROS

- Closest east-west route over the Boardman River to Traverse City
- Roundabouts would speed up traffic
- Roundabouts would address intersection concerns
- Little right-of-way needed for improvements

CONS

- Sequential roundabouts may be challenging to some
- Roundabouts may cause issues with entering and exiting property
- Would require entire road redesign
- 'Michigan Lefts' would be required

HAMMOND ROAD CROSSING

PROS

- Next closest river crossing to South Airport Road
- May help address traffic congestion on South Airport Rod
- At the edge of the densely developed area
- Allows for a longer east-west connection
- May increase development along Hammond Road

CONS

- Expensive to construct bridge and/or new alignment over Boardman River
- Introduces environmental impacts
- Future maintenance of new crossing could be expensive
- May increase development along Hammond Road

CASS ROAD CROSSING

PROS

- Existing bridge over Boardman River could be expanded to 4 lanes
- Could utilize railroad right-of-way to connect to Rennie School Road (B)
- Provides relief for congestion on Keystone Road
- No new ROW would be needed (C)

CONS

- Extensive right-of-way acquisition (A)
- Have to expand existing Cass Road Bridge
- Rail right-of-way may not be usable (B)
- Rail right-of-way could be used for bike/pedestrian travel (B)
- Connection may be too far south to provide congestion relief
- Connection to US-31 from river is far (C)

BEITNER ROAD CROSSING

PROS

- Would not require any bridge construction
- Helps alleviate traffic congestion on Keystone Road
- Provides a more direct connection to the east side of the Study Area
- Utilizes an existing crossing of the Boardman River

CONS

- May be too far south to provide congestion relief near Traverse City
- Sequential roundabouts may be challenging to some

NEXT STEPS

HOW TO STAY ENGAGED

- Visit our Website and provide additional comments to the interactive map
- Fill out comment cards with input and ideas
- Sign up for the mailing list

UPCOMING MEETINGS

- Recommended Solutions Public Meeting - April 2019

Project Next Steps

- Finalize evaluation of Practical Solutions, including
  - Environmental Constraints
  - Traffic Modeling
  - Cost estimates
- Develop Short Term and Long Term Solutions
- Combine into Recommended Solution
- Final Public Meeting to Discuss Final Recommendations
- Create and Approve Final Report

Questions?