US 2/US 81 SKEWED INTERSECTION STUDY

Public Input Meeting #1

Grand Forks, ND
April 2019

Overcoming Barriers  Strengthening Connections

Grand Forks - East Grand Forks Metropolitan Planning Organization

Ensuring Opportunities  Planning One Community
AGENDA

- Study Area
- Train Crossings and Blockages
- Vehicular Traffic and Reliability
- Safety
- Pedestrian, Bicycle and Transit
- Environmental Conditions
- Alternatives Brainstorming
- Next Steps
Known Issues and Conflicts:

- Mill spur railroad crossing creates traffic blockages and queueing issues.
- Intersection skew makes turning movements for trucks difficult.
- Opportunities for improved pedestrian, bicycle and transit conditions.
Train Crossings and Blockages
Mill Spur Crossing

Safety
- 12 crashes between 1975-1994
- No crashes since 1994

Crash Prediction
- 0.028 crashes per year (FRA)
- 5th highest rate in City
- 7th highest rate in County
Train Blockages

- 4 to 5 blockages per day
- 10 MPH or Less
- Rail Delay Estimates
  - 89 Hours/Day
  - 2,670 Hours/Month
  - 32,396 Hours/Year

Minimum Delay - 0:21 minutes
Average Delay - 2:31 minutes
Maximum Delay - 14:14 minutes
ND Mill Working to Accommodate Unit Trains

All crossings will be blocked at the same time.

4x Longer than Current Trains

10-17 Minutes of Delay at Mill Spur Crossings

4-6 Blockages per Month
Average train blockage is 2:31
- Brain damage in four to six minutes when heart stops
- Altru Hospital provides emergency service to East Grand Forks and surrounding area
- Train blockage duration will increase with Unit Trains
Average train blockage is 2:31

- Fires can double every 60 seconds
- Goal to reach every address within four minutes

Train blockage duration will increase with Unit Trains
Vehicular Traffic and Reliability
Level One Freight System with international connections

1,200-1,500 trucks per day

Trucks per day > 1,500 during sugar beet harvest season

In 2016, NDSM increased capacity 33%, looking to expand another 22% in 5 years
<table>
<thead>
<tr>
<th>CAPACITY</th>
<th>TRAFFIC FLOW</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Under</td>
<td><strong>LOS A - FREE FLOW</strong>&lt;br&gt;Low volumes and no delays.</td>
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<td><strong>LOS B - STABLE FLOW</strong>&lt;br&gt;Low volumes and speeds dictated by travel conditions.</td>
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<td><strong>LOS C - STABLE FLOW</strong>&lt;br&gt;Speeds and maneuverability closely controlled due to higher volumes.</td>
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<tr>
<td>Approaching</td>
<td><strong>LOS D - RESTRICTED FLOW</strong>&lt;br&gt;Higher density traffic restricts maneuverability and volumes approaching capacity.</td>
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<tr>
<td>At</td>
<td><strong>LOS E - UNSTABLE FLOW</strong>&lt;br&gt;Low speeds, considerable delays, and volumes at or slightly over capacity.</td>
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<tr>
<td>Over</td>
<td><strong>LOS F - FORCED FLOW</strong>&lt;br&gt;Very low speeds, volumes exceed capacity, and long delays with stop-and-go traffic.</td>
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LOS acceptable at all intersections today, except N 4th Street.
Congestion Builds at Washington Street, causing unacceptable LOS in the future
Queuing an Issues in All Scenarios
Travel Time a Concern with Trains and Multiple Signals
2045 Queuing Issues

PM Peak

Train Event (non-unit train)
One train event:

- 4 hours of vehicle delay today
- 7 hours by 2045
- Future unit trains
Removal of unwarranted signals reduces
- All crashes by 24%
- Injury crashes by 54%
- Right angle crashes by 24%
- Rear end crashes by 29%

Existing Traffic Control Analysis

Existing

LEGEND
- Unwarranted Traffic Control
- Warranted Traffic Control
- BNSF Mill Spur

2030 and 2045

LEGEND
- Unwarranted Traffic Control
- Potentially Warranted Traffic Control
- Warranted Traffic Control
- BNSF Mill Spur
Crash History

- 28 Crashes/Year
- 78% Intersection Crashes
- 52% Rear-End Crashes
- 38% Peak Hour Crashes
20th Street Intersection

- 12 crashes in last five years
- 33% rear end crashes on east approach
- 25% westbound left-turn crashes (Protected/Permitted)

Unwarranted signal control increases
- All crashes by 24%
- Injury crashes by 53%
- Right angle crashes by 24%
- Rear end crashes by 29%
Access Management

Unsignalized driveways
- Increase crash rate by 2%
- Reduces corridor travel speed by 0.25 MPH

Desired Access Spacing
- 660 feet
- 8 access/mile

Existing Access Spacing
- 33 accesses
- 66 access/mile (8x Standard)
20th Street to Washington Street

- 17 crashes in last five years
- Above critical crash rate
- 41% during AM/PM peak hours
- Long queues and dense access spacings
- Queues block sight lines

![Traffic Accident Types](image)

*Legend:
- **Left Turn**: 23%
- **Angle**: 18%
- **Rear End**: 35%
- **Other**: 24%

*Legend:
- **T-Access**
- **Proposed Development Access Inlet**
- **Proposed Development Right Out Only**
- **Intersection Functional Area**
US 81/Washington Street Intersection

- 45 crashes in last five years
- 60% rear end crashes
  - 30% during AM or PM peak hour
  - 30% between 11 AM to 1 PM
- 8 crashes involving trucks
- 0 Crashes involving Pedestrians or Bikes
- Long queues and dense access spacings
- 30% rear end crashes during peak hours
41 crashes in last five years

- Above critical crash rate

- 50% rear end crashes
- 65% During AM or PM peak hours
- 52% occurred on east approach
Pedestrian, Bicycle and Transit
Only controlled crossing at 3rd Street underpass
ADA conflicts at crosswalks, utilities and driveways
Minimal to no buffer
Connections
- 3rd Street and Red River Greenway to the east
- Columbia Road to the west
- No traffic control to cross US 2/Washington Street
- Underpass at 3rd Street
- Bikes allowed on all streets
CAT Route 2
- Hourly service

CAT Route 13
- Night Route

Stops
- 5<sup>th</sup> Street/10<sup>th</sup> Ave
- Hugo’s on 20<sup>th</sup> St
- Home of Economy when scheduled in advance
Environmental Conditions
Right-Of-Way

- US2/Gateway Drive: 70 feet
- US 81/Washington Street: 20 feet on east side, 60 feet of west side
Affected Environment

Potential Impacts

- Hazardous Waste Sites
- Social and Economic Impacts
- Noise

Pedestrians and Bicyclists
- Environmental Justice
- Historic and Archaeological Preservation

Section 4f
At-Grade Improvements
Rerouting Skewed Movements

Grand Forks-East Grand Forks Freight Rail Access Study
Reroute the Mill Spur

- New rail line to connect to north end of Mill Spur (Actual location not yet determined)
- Gateway Drive - New underpass, no at-grade crossing
- New fencing along both sides of railroad tracks
- Mill Spur abandoned from Gateway Drive to junction with BNSF mainline, removal of all at-grade crossings
Grade Separated Crossing

Grand Forks-East Grand Forks Freight Rail Access Study
Funding Availability

- >$150,000,000 in Unfunded Grand Forks Projects
- 42nd Street and DeMers Avenue (~$25-30M)
- Gateway Drive/US 2 and Glasston (~$28M)
- Part of the NHS and Freight System
Next Steps
Next Steps

- Review Public Comments and Ideas
- Develop and Analyze Alternatives
- Review Alternatives with Steering Committee
- Present and Review Alternatives to the Public
How to Get Involved

› Share Your Ideas at the Meeting!
› Fill Out Brainstorming Worksheet
› E-mail: mike.bittner@kljeng.com
› Fill Out Comment Card
› Visit website: https://theforksmpo.com/the-forks-mpo/