

I-40 Regional Partnership

Working visit to Minneapolis-St. Paul
 Bus on shoulder, freeway operations, and transit
 October 31 – November 2, 2011

I-40 REGIONAL PARTNERSHIP: TRIP OBJECTIVES and potential SESSIONS AND/OR FIELD VISITS

Transit-focused elements

- Bus-only shoulders (BOS) / freeway
- BOS / arterial
- BOS ops, training, enforcement, planning
- BOS with driver assistance
- Transit control center
- Transit advantage interchange bypass ramp
- Freeway shoulder slip ramp and bus stop
- Suburban bus rapid transit (BRT)
- Suburban BRT station
- 2-level freeway median BRT station
- High-frequency bus network
- Light rail
- Commuter rail
- Coordinated transit, land use
- Paired double contra-flow bus lanes
- Park and ride lots with direct freeway access
- Transit user information system
- Transit signal priority

Refs

- [map](#)
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Potential location and/or agency

- Multiple locations in Metro; e.g. , I-94 in St. Paul
- Several locations in Metro; need guidance
- Metro Transit, MVTA, Mn/DOT, State Patrol staff
- MVTA buses and routes, e.g. 475
- Metro Transit headquarters, Mpls.
- Mn 77 NB at Mn 62 WB, adjacent to MSP arpt.
- I-35W at Lake St, Mpls.
- Red line (Cedar Avenue) system, partially-complete
- Cedar Grove Station, Eagan
- I-35W at 46th St, Mpls.
- Multiple routes in Metro; need guidance
- Blue line (Hiawatha) from MOA to Target Field Stas.
- North Star Commuter Rail at Target Field Sta. north
- Target Field Sta., Mpls.; likely other locations
- “Marq2” Marquette and 2nd one-way pair, Mpls.
- A/B/C garages or ramps off of I-394
- NexTrip including text and audio info at stops
- Hold green for buses that are behind schedule

Other freeway / congestion relieving elements

- Urban Partnership Agreement
- Ramp meters
- Ramp meter bypass lanes for HOV
- Smart Lanes
- Travel time signs for general and transit lanes
- Intelligent lane control signals (ILCSs)
- High-occupancy / toll (HOT) lanes / separated
- HOT lanes / concurrent
- Priced dynamic shoulder lane (PDSL)
- In pavement lighting at PDSL entrance taper
- Regional Transportation Mgt. Center (RTMC)
- Freeway Incident Response Safety Team (FIRST)
- Emergency response, enforcement, etc.

Refs

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Potential location and/or agency

- Mn/DOT, FHWA, Metro Transit, staff
- Multiple locations in Metro; need guidance
- Multiple locations in Metro; need guidance
- I-35W NB, SB; I-394 (*under construction*)
- In vicinity of park and ride lots near I-35W
- I-35W NB, SB (*note: ILCS are part of Smart Lanes*)
- MnPass: Part of I-394 has 2 reversible HOT lanes
- MnPass: I-35W NB to exit 14/36th; portions of 394
- MnPass: I-35W NB, exit 14/36th St to 26th Street
- I-35W NB at exit 14; visible from 38th St. overpass
- RTMC at Mn/DOT Metro District HQ, Roseville
- RTMC, Mn/DOT, State Patrol
- State Patrol co-location with RTMC

RESEARCH TRIANGLE COMPARATIVE NOTES FOR CONTEXT

- *North Carolina’s Research Triangle region (“the Triangle”) has a Regional Traffic Management Center (TMC), with State Highway Patrol co-located, opening in October 2011.*
- *Some freeways have overhead signs that show expected travel time to key destinations and interchanges.*
- *The Triangle region has an active Incident Management Assistance Program (IMAP) and engages in cooperative emergency response and enforcement.*
- *The first modern toll road in the Triangle region (and in North Carolina) will open in stages beginning fall 2011.*
- *The Triangle has a regional transit call center and will launch in October 2011 a regional, real-time transit information system that will completely integrate data from multiple agencies and bus tracking vendors.*
- *A few bus routes serving UNC Chapel Hill and Duke University are high-frequency. One bus route each in the cities of Raleigh and Durham would qualify as high-frequency.*
- *We are not aware of any active or under construction installations of any of the other elements listed above.*

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Please note: all session times are approximate and all items subject to change as agenda evolves.

AGENDA - Monday, October 31, 2011 – MORNING and EARLY AFTERNOON – FREEWAY OPERATIONS

Travel from RDU Airport to MSP Airport on your own.

Please arrive in the Twin Cities region by 11 am CDT. Some flight possibilities include:

DL 5382, leaves RDU 6:00a arrives MSP 8:10a
DL 5760, leaves RDU 8:30a arrives MSP 10:32a
FL 96/877, leaves RDU 6:15a – xfer ATL – arrives MSP 10:41a
UA 751/580, leaves RDU 6:53a – xfer ORD – arrives MSP 10:29a

Round trip flight costs, exclusive of luggage, generally ranged from \$322 to \$626 as of October 12, 2011.

Suggested hotel

The following hotel was recommended by Metro Transit staff due to proximity to light rail:

Embassy Suites, MSP Airport, 7901 34th Avenue South, Bloomington, MN

- Hotel is adjacent to American Blvd station on light rail route 55/Hiawatha/Blue Line
- As of October 12, 2011, total \$277 with all taxes for two nights for government employees (\$387 otherwise).

Arrival logistics - Take hotel shuttle from airport to hotel to drop off bags
- Grab lunch at airport, hotel, etc. – *all meals on the trip are pay on your own*
- *Carl Jensen of Mn/DOT expects to arrive at 12:15 pm*

By 12:30 pm **Guided van tour to Roseville, MN – Mn/DOT Metro District offices**
(TH- 77 to TH 62 to I-35 W to 36 east to 51 north, L on County Rd B2, first R into offices)
On TH 77 portion of journey: Bus only shoulders and UPA Ramp to TH 62
On TH 62 portion of journey: Bus only shoulders and ramp meters, without HOV/Transit bypass
On I-35W portion of journey, initial scoping field view of (Mn/DOT to finalize):
- “Smart Lanes”: intelligent lane control signals (ILCSs) showing advisory speeds, etc.
- High-occupancy toll lanes
(NOTE: will not be open when we arrive; open 6a-10a, NB only; open 2p-7p, SB only)
- Priced dynamic shoulder lanes (PDSL):
(NOTE: will not be open when we arrive; open 6a-10a, open 2p-7p, NB only)
- In pavement lighting at PDSL entrance taper near exit 14
- I-35W Lake street Stop
- Possible divert to see UPA Travel Time Signage, time permitting

1 pm **Discussion(s) Mn/DOT Metro District, FHWA Minnesota Division, and State Patrol staff**
Waters Edge Building, 1500 W. County Road B-2, Room 176, Roseville
- Introductions to Mn/DOT
- Bus only shoulders, including development, design changes, use of crash statistics in corridor selection and evaluation, noise wall analysis, etc.
- Design, maintenance, materials, and environmental services staff will be present
- Communications, partnerships, and protocols between Mn/DOT, State Patrol and Transit agencies

DRAFT – REVISED OCTOBER 28, 2011

Note: Monday, October 31 continues on next page

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AGENDA - Monday, October 31, 2011 – MID-AFTERNOON to END OF DAY – FREEWAY OPERATIONS AND BOS

- By 2:30 pm** **Walk to Regional Transportation Management Center (RTMC)**
(Co-located with Mn/DOT Metro District Headquarters)
- 2:30p – 3p** **State Patrol perspective and roles at RTMC**
- emergency response, enforcement, incident management, etc.
- 3p – 4p** - **Brian Kary, Mn/DOT – RTMC Tour**
- Overall approach to freeway operations
- Overview of Urban Partnership Agreement with FHWA
- Congestion relief measures on I-35W
- Transit advantage ramp (NB 77 at WB 62)
- Smart lanes
- Dynamic message signs (150 in Twin Cities)
- Intelligent Lane Control Signals (ILCS)
- Freeway Incident Response Safety Team (FIRST), M-F 5a-8p
- Ramp meters
- Cameras (500 in Twin Cities) – perhaps focus on bus-only shoulder
- 10-minute traffic reports
- 4 pm** **Guided tour of Freeway Operations and BOS**
- I-394 HOT lanes and Louisiana Park and Ride, and various bus-only shoulder lanes
- Or other items that did not get covered during initial arrival tour
- 5 pm** **Ride on Metro Transit bus that has probable bus shoulder running**
- Riding Route 578 from Downtown to Southdale Mall
- Short walk to the Southdale Mall to catch Route 515 to the MOA.
- Alternates are 538 and 539.
- This would allow a stop at I-35W and Lake street on the Interstate, possible use of the HOT/HOT lanes on I-35W and Possible use of bus shoulders on TH 62 going toward the transit Station.
- 6 pm or so** **Suggestion: Group dinner (pay on your own)** -- perhaps somewhere at/near Mall of America

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AGENDA - TUESDAY, NOVEMBER 1, 2011 – MORNING – LIGHT RAIL, BOS, and other TRANSIT

NOTE THE FOLLOWING TIMES MAY NEED TO CHANGE TO EARLIER TIMES

- 6 am** **Breakfast quickly** (note: cold items available at 6a – grab and go, remember we are in CDT)
- 6:20 am** **Board Hiawatha Light Rail to Metro Transit HQ** (Light rail goes every 8 mins to Target Field)
- By 7 am** **Meet Carl Jensen at Target Field station, walk to bus on 7th Street**
- 7 am – 9am** **Guided bus on shoulder driving demonstration (Instructor Denny Johnson will drive)**
- Board Metro Transit Bus at Target Field – Carl Jensen will show group where the bus is parked
- MT instructor will drive bus on shoulder and explain driving procedures (Route 36 - St Paul)
- 9:15am** **Instruction Center (IC) – Meet Metro Transit Team**
- 9:30 – 10:00am** **Service Planning - Jason Podany**
- Bus only shoulder overview, including current operations and expected changes
- Integration of Bus Only Shoulder (BOS) and freeway Bus Rapid Transit (BRT)
- Integration of BOS and suburban BRT (on shoulder, etc.)
- Potential elimination of all/some BOS to Priced Dynamic Shoulder Lane (PSDL)
- 10:10- 10:30am** **Brian Lamb, GM– (He will stop in to meet the NC delegation)**
- 10:30 – 11:00am** **Service Development - John Levin & Pat Jones**
- Overview of Marq2 (Marquette and 2nd Av double contra-low lanes)
- Overview of 15-minute frequency service
- I-35W / 46th Street transit station
- Plans for Orange Line (I-35W) South Bus Rapid Transit
- Metro Transit philosophy on bus routes and schedules
- Integration of bus shoulders, HOT, PSDL into schedule development
- Inter-agency cooperation
- 11:00-11:15am** **BREAK**
- 11:15am- 12:00pm** **Walk to TCC (Transit Control Center) for Tour (Curt Olson)**
- How do operators get help on the line?
- Transit Control Center – data and voice communications – intra and interagency
- 12:00 – 1:00pm** **LUNCH - Suggestion: Send out for lunch from one restaurant and have it delivered to IC**
(Pay your own.)

Note: Tuesday, November 1 continues on next page

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AGENDA - TUESDAY, NOVEMBER 1, 2011 – AFTERNOON - BOS, and other TRANSIT

1:00-1:30pm Safety Data on Shoulder Driving (Brenda Himrich - Safety)

1:30 – 1:45pm BREAK

1:45-2:45pm Guided Bus tour (Instructor will drive)

- U of M transit mall (under construction)
- Marq2 corridor dual contra-flow bus lanes
- Bus will drive around Target Field and show ABC ramps
- Target field intermodal station: Bus, LRT, Northstar

3:15p - Board DAS bus at 5th St. Garage.

("special service" bus, allowing for presentation and discussion on the vehicle.)
MVTA Planning Manager Michael Abegg and U of M Project Manager Craig Shankwitz will be on board.

Bus will travel south on Marquette Avenue to view UPA-funded dual-bus lane project.
MA will discuss dual bus lane project on 2nd and Marquette

Bus will enter I-35W southbound.
MA/CS will discuss bus-only shoulders; MA will discuss 46th St. Station concept

Buses will take Hwy 62 east to Cedar Avenue
Exit at Cedar, turn around, take slip-ramp onto Hwy 62 (MnDOT UPA project),
turn around, then back to SB Cedar)

(Travel along Red line / BRT corridor)

Travel to Apple Valley Transit Station (turn left at 157th, by old station, pause by new station.) Use
shoulders to extent possible. MA/CS to discuss DAS.

Aprx 4:20p - Travel to Burnsville Bus Garage for simulator demonstration, examination of on-bus equipment.

Aprx 6 p.m. - , bus will take guests back to their hotel (Embassy Suites near LRT Station) or Mall of America,
traveling by Cedar Grove Transit Station

6:30 pm or so Suggestion: Group dinner (pay on your own) -- perhaps somewhere at/near Mall of America

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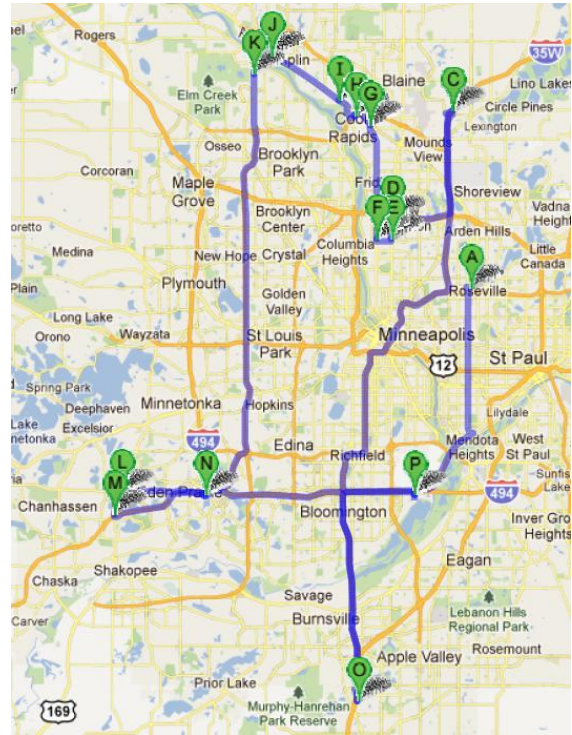
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WEDNESDAY, NOVEMBER 2, 2011 – MORNING – SUBURBAN BRT and ANYTHING ELSE WE MISSED

Exit logistics **Check out of hotel; leave bags at front desk if no room in van, otherwise bring them**

6:30 am **Breakfast** on your own (note: included with room at suggested hotel; cold items available at 6a)

7:00 am **Mn/DOT guided tour**
Location C: UPA parking ramp/lot with slip ramp to SB I-35W
Segment D to E: Arterial Bus Shoulder through a busy business and residential area on TH 65.
Segment F to G: Arterial Bus Shoulder through a busy business and residential areas with controlled access on TH 47.
Location H: Park and Ride lot with Slip Ramp to TH 610.
Segment I to J: Bus shoulder on non MnDOT arterial.
Segment K to near N; arterial bus shoulders on a controlled access highway.
Location L: Park and Ride Ramp under construction with TOD possibilities, at least I think it is under construction.
Location N: Southwest Station Park and Ride Ramp with slip ramp and TOD.
Location O: Kenrick Ave Park and Ride Ramp, UPA built on old weigh station location.



NOTE: The 4 park and ride locations all have slip ramps that are a little different from each other.

Priority items to potentially visit in addition to the bus shoulders include:

- Ramp meters (multiple locations)
- Priced dynamic shoulder lanes (PDSL)
- 46th street station (board from arterial, not I-35W)
- 2-lane roundabout, perhaps in Savage at Lynn/

11 am **Van drops us off at MSP airport**

Travel from MSP Airport to RDU Airport:

Please select any flight that leaves after 1 pm CDT. Flight possibilities include:

- DL 5790, leaves MSP 1:15p arrives RDU 4:41p
- DL 2641, leaves RDU 3:05p arrives RDU 6:30p
- FL 876/93, leaves MSP 1:32p – xfer ATL – arrives RDU 7:36p
- UA 622/722, leaves MSP 2:24p – xfer ORD – arrives RDU 7:59p