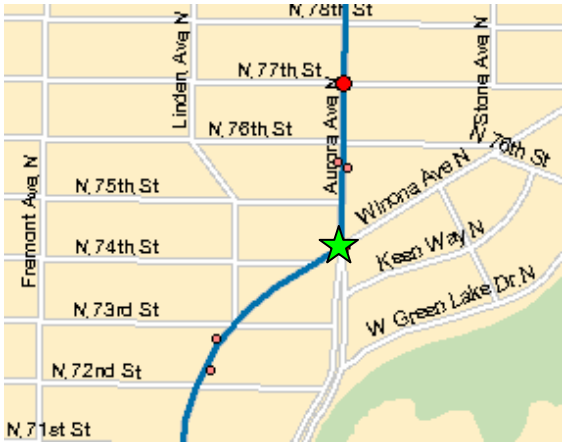
Transit Speed & Reliability
Spot Improvement Bi-Annual Report

June 2006

Transit Speed and Reliability (TS&R) continues its efforts to improve traffic operations problems that affect the daily operation of Metro buses. Spot improvements are relatively low-cost, single location solutions that can be implemented to benefit transit with a minimum of impacts to other roadway users. Once reported and identified, spot improvements can take anywhere from a month to over two years to implement, depending on the nature of the problem, the solution, and agency staff resources. This bi-annual report highlights the spot improvements that have been completed within the past six months.

Aurora Avenue N & Winona Avenue N



Problem Reported
Route 358 coaches operating in the outbound direction experienced a high level of delay while making an eastbound left-turn at this intersection.

Assessment
This signal only provided for permissive left-turn phasing for left-turn movements in all directions. Coach delay was due to the heavy flow of oncoming traffic westbound on Winona Avenue, combined with the long cycle length in use at the signal. Although a Transit Signal Priority (TSP) system was installed and was providing additional green time to approaching coaches, the TSP system did not stop the flow of oncoming traffic on Winona.

The Fix
TS&R made contacts with the Seattle Department of Transportation (SDOT) and requested the installation of a protected-permissive left turn phase at the intersection. SDOT subsequently installed left turn signals for both eastbound and westbound directions.

Resolution
Outbound route 358 coaches now have a left-turn arrow, during which they can complete the left turn movement without conflict with opposing traffic. The TSP system is now more effective in prioritizing transit movements.

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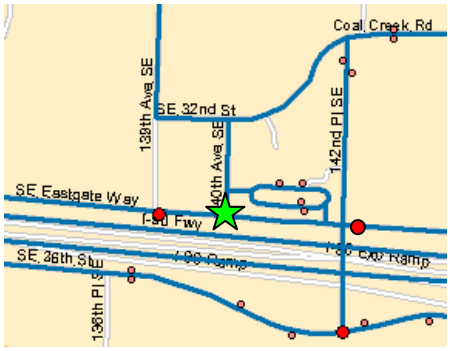
Have a suggestion for a spot improvement? Contact Owen Kehoe at 206-263-6332 or owen.kehoe@metrokc.gov

SE Eastgate Way & 140th Avenue SE



Problem Reported
Transit operators and other Metro operations staff had observed that coaches had to wait a long time at this signal to turn left after exiting the Eastgate Park & Ride. Long delays were observed throughout the day.

Assessment
This signal was running in coordinated mode during most times of day, in order to accommodate large volumes of traffic on Eastgate Way. However, these traffic volumes tapered off during the middle of the day.

The Fix
The City of Bellevue turned off coordination during mid-day periods, which makes the signal more responsive to traffic approaching on 140th Avenue SE.

Resolution
Southbound traffic on 140th Avenue no longer has to wait through a full signal cycle during periods of light traffic. This reduces delay to many transit routes that exit the Park & Ride and continue east on Eastgate Way.

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15th Avenue NE & NE 145th Street

Problem Reported
Several route 373 and 347 operators reported that the northbound left-turn arrow at this intersection was too short, and was causing delays of up to several minutes during the PM peak.

Assessment
During the PM peak, the green time for this left-turn signal was only 7 seconds long. Opposing southbound traffic was observed to be fairly light, so that green time could be shifted to the left turn arrow without significant traffic impacts. After further investigation, it was discovered that the loop detectors in the northbound left turn lane were not functioning due to a recent pavement resurfacing project.

The Fix
SDOT technicians re-connected the loop detectors. The loop detectors will now extend the green time for the left turn phase when vehicles are present in the left-turn lane.

Resolution
The northbound left turn arrow now provides adequate green time to serve traffic making the northbound left-turn movement.

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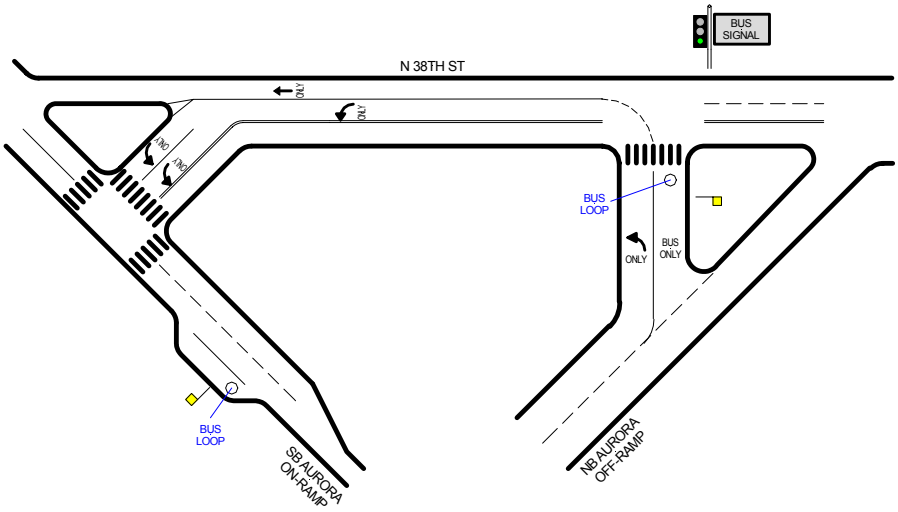
N 38th Street & Bridge Way N



Problem Reported

At the intersections where N 38th Street, Bridge Way, Fremont Way, and Aurora Avenue On and Off ramps converge, the existing unsignalized traffic control could not accommodate growing traffic volumes and was a source of delay to several transit routes.

Assessment

In anticipation of the coming Fremont Bridge closure, SDOT designed two new signals and reconfigured the lanes for these intersections. TS&R was actively involved in the design of the new signals, and contributed funding to their construction. As a result, special transit features were incorporated into the design.

The Fix

A queue jump signal is provided in the northbound direction, which gives coaches a head start when making the northbound left turn. In the southbound direction, a special loop detector has been installed in the bus pullout, which could potentially be used to stop traffic while a bus is trying to merge.

Resolution

The queue jump signal reduces delay to the outbound route 5 Local, and also the Route 28 during the Fremont Bridge reroute. The southbound merging area will continue to be monitored to see if the bus loop feature needs to be activated.

Agency Staff Contacts

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E-3 Busway & S Spokane Street

Problem Reported

The signal at the south end of the busway at times did not seem to respond to transit coaches approaching in the southbound direction.

Assessment

Some coaches had to wait a while at the signal, while little traffic was being served on Spokane Street. SDOT signal technicians were called to investigate, and a problem was discovered with the signal detection circuits.

The Fix

SDOT employs the use of a special circuit that holds the green light on Spokane Street for a period of time, in order to prevent traffic backups onto the adjacent intersection at 6th Avenue & Spokane Street. This circuit was fixed to operate as intended for maximum efficiency.

Resolution

Although there are times when coaches may have to wait for several seconds before receiving a green light to exit the Busway, the programmed delay helps clear traffic on westbound Spokane Street. This feature also reduces delay to inbound transit coaches as they travel to the Busway.

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