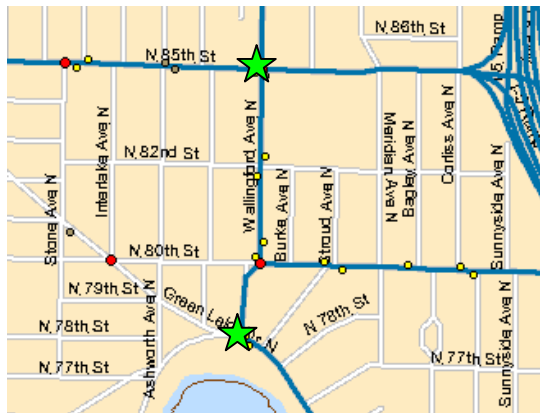


TRANSIT SPEED AND RELIABILITY SPOT IMPROVEMENT BI-ANNUAL REPORT

JUNE 2005

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 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.

WALLINGFORD AVENUE N: EAST GREENLAKE DRIVE N AND N 85TH STREET



PROBLEM REPORTED

Wallingford Ave N is a narrow roadway that has been an ongoing problem to bus operations. Oncoming coaches and other large vehicles have difficulty passing each other when meeting along this street. Coaches turning onto Wallingford Avenue at these two locations often find limited space to make the maneuver due to parked vehicles and vehicles in other lanes.

ASSESSMENT

TS&R staff evaluated a broad range of solutions to the "Wallingford Weave" problem, as part of a Route 48 corridor evaluation. Several quick-fix projects were identified that could provide some relief to the narrow roadway problem, including limited parking restrictions near critical intersections.

THE FIX

A new set-back stop bar was installed on the southbound approach of the East Greenlake Drive N intersection, to hold southbound vehicles further back from the intersection. Also, a new parking restriction, from 7AM to 6PM, was added near the southwest corner of the N 85th Street intersection.

RESOLUTION

The new stop bar and parking restriction help to provide more space to allow coaches to turn and pass. Although the narrow roadway still poses problems to oncoming coaches in other locations, these two small fixes should provide relief in the most-critical spots.

AGENCY STAFF CONTACTS

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NW MARKET STREET



PROBLEM REPORTED

New signal timing installed on Market St was delaying a large number of coaches. Bus operators reported that poor signal coordination was affecting schedule performance on the Route 44.

ASSESSMENT

TS&R conducted a field assessment and contacted SDOT staff, who was currently working on a re-timing project along NW Market Street. TS&R provided input and additional traffic analysis to SDOT, which SDOT used to revise timing at some intersections.

THE FIX

Signal timing was adjusted at NW 20th Ave and NW 24th Ave signals, to allow buses to take full advantage of signal coordination. Also, a 4-6PM left-turn restriction was installed westbound on Market St at 22nd Ave NW, to improve traffic flow on Market St.

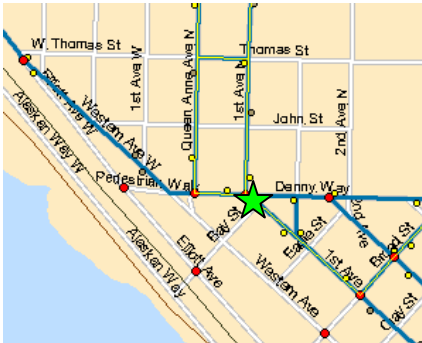
RESOLUTION

Coaches now experience less delay and better schedule performance along Market Street. Also, the new signal timing greatly reduces pedestrian delay at several intersections, which is a benefit to many of Metro's customers.

AGENCY STAFF CONTACTS

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1ST AVENUE & DENNY WAY



PROBLEM REPORTED

Coaches travelling northbound along 1st Avenue experienced high delay from this intersection during the PM peak. Traffic would back up from the nearby signal at Queen Anne Avenue & Denny Way at times and block northbound movement on 1st Avenue. Some coaches would have to wait up to three signal cycles to get through.

ASSESSMENT

TS&R performed an analysis of the signal operations, to evaluate some alternative timing scenarios. TS&R provided the results to SDOT signal engineers, for concurrence.

THE FIX

SDOT Signal technicians adjusted the timing on the Denny Way signals in March 2005.

RESOLUTION

The blocking problem has been largely eliminated and delay to northbound vehicles had been reduced during normal traffic conditions. Longer delays are still possible when special events occur in the Seattle Center area.

AGENCY STAFF CONTACTS

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WOODINVILLE PARK & RIDE SIGNAL



PROBLEM REPORTED

Operators reported long delays during all times of day while exiting the P&R or approaching the intersection eastbound from NE 178th Place. Delays of 1.5 minutes were typical, with some operators reporting delays up to 5 minutes.

ASSESSMENT

TS&R has been working with the City of Woodinville and King County Road Services to develop an alternate timing strategy for this signal. Because of the close proximity of this signal with others on 140th Avenue NE, careful consideration needed to be made for the heavy traffic volumes on 140th Avenue. During their investigation, KC Roads discovered that a loop detector on the P&R roadway may be having intermittent problems.

THE FIX

King County Roads implemented new timing at the signal in March 2005, resulting in a significant reduction in delay during AM and PM periods. A minor adjustment was made during the mid-day period timing.

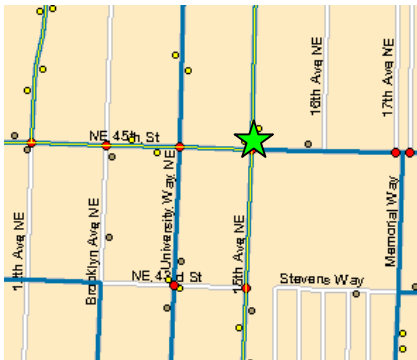
RESOLUTION

This fix reduces delay for many bus routes heading into and out of the P&R during peak periods. KC Roads and TS&R will continue to monitor the condition of the loop detectors and make fixes or adjustments as needed.

AGENCY STAFF CONTACTS

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15TH AVENUE NE & NE 45TH STREET



PROBLEM REPORTED

Metro and Community Transit coach operators reported that there was not enough green time available for the northbound left-turn movement. Operation supervisors reported that coaches often ran through this red light and sometimes blocked the intersection.

ASSESSMENT

TS&R staff, after working with SDOT to re-time this signal several years ago, re-visited the intersection to look for a quick fix solution to the reported problem. Staff noticed that on occasion, a bus queued behind other vehicles would be slow to start moving, which would create a gap over the loop detector at the front of the left-turn lane. This would sometimes cause the green time for left turn arrow to be cut off short.

THE FIX

TS&R reported the observations to a SDOT signal technician, and requested a change to the loop detector settings. SDOT made the adjustments in May 2005.

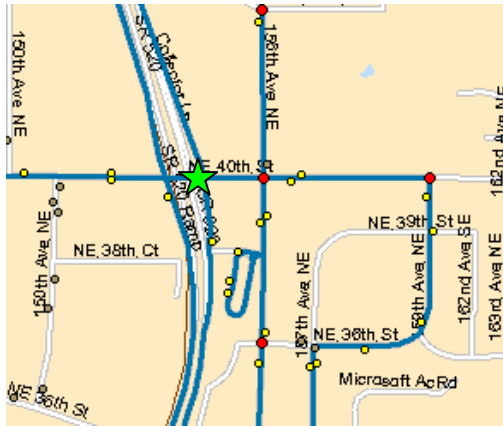
RESOLUTION

Coaches making the northbound left turn will now get the full amount of programmed green time. TS&R staff will continue to monitor the intersection to see if additional changes are warranted.

AGENCY STAFF CONTACTS

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SR-520 OFF RAMP & NE 40TH ST



PROBLEM REPORTED

The heavy flow of traffic into the Microsoft Campus during AM periods was delaying ST Route 545 coaches on the SR-520 EB ramp at NE 40th Street. At this ramp intersection, a long queue of right turning vehicles impeded the through movement of coaches after serving the Overlake Transit Center bus stop.

ASSESSMENT

TS&R found that the intersection of 156th Avenue & NE 40th Street was the bottleneck that was causing the queues to form on the ramp. TS&R staff also identified a potential lane configuration change that could allow buses to bypass the queue of right-turning vehicles. WSDOT was currently designing revisions to the interchange, including removal of one crosswalk and installing a raised island far-side of the bus zone.

THE FIX

TS&R staff contacted the City of Redmond to try some signal timing adjustments at the 156th Avenue & 40th Street intersection. Several seconds of green time were added for the eastbound-through movement, and the coordination settings were adjusted to help the traffic move off of the SR-520 EB ramp. TS&R also contacted WSDOT to request a revision in lane configuration.

RESOLUTION

The signal timing adjustments provide some relief by moving vehicles off of the ramp more quickly. However, the large demand of traffic headed towards the Microsoft campus will still result in long queues on the ramp. WSDOT is currently considering the lane configuration changes.

AGENCY STAFF CONTACTS

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