

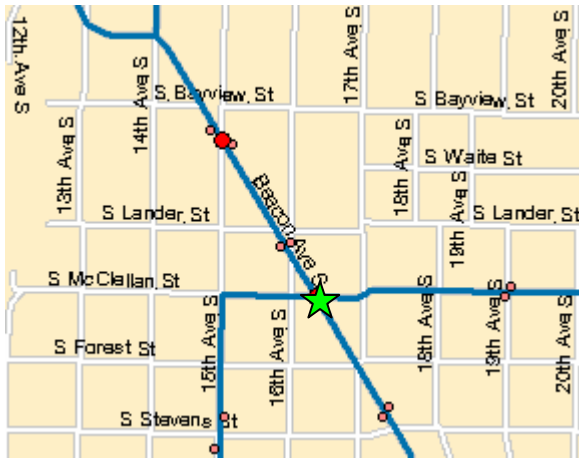
Transit Speed & Reliability

Spot Improvement Bi-Annual Report

Summer 2007

Transit Speed and Reliability (S&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.

Beacon Avenue S & S McClellan Street



Problem Reported

After conducting a speed and reliability study of the Route 36, S&R staff found that a large number of daily transit trips and riders were being delayed at this intersection, including routes 36, 60, and 38. Long waits were observed while little traffic was being served in the opposing directions.

Assessment

S&R staff identified that the signal was “split-phased”, meaning that northbound and southbound traffic was not allowed to proceed concurrently through the intersection. Although split-phasing is needed at some locations due to high left-turn traffic and constraints with the lane geometry, in this particular location the split-phasing was needlessly delaying intersection users.

The Fix

S&R staff worked with SDOT signal engineers to design a new signal configuration. The new configuration allows northbound and southbound through traffic to move concurrently, and provides protected-permissive left turn phases.

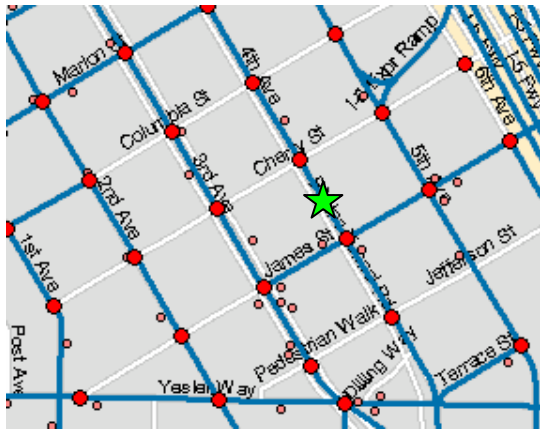
Resolution

Buses approaching this intersection from all directions now experience less delay due to the new signal configuration. Based on AVL data taken before and after this improvement, the potential savings from this improvement is over 230 annual operating hours. In addition, general purpose traffic and pedestrians also have a shorter wait at this signal. When Link Light Rail becomes operational, the area surrounding this intersection is likely to become an important pedestrian/transit hub and transfer point. The efficient operation of this signal will allow for smooth operation of buses and ease of transfers for transit customers.

Agency Staff Contacts

Joe Couples, SDOT
Owen Kehoe, KC Metro

4th Avenue between James & Cherry Street



Problem Reported

Metro Service Planning staff noted that this block of 4th Avenue became congested during the PM Peak, and also that parking was allowed all day on the left side of the roadway, despite the fact that PM parking restrictions were in place north of Cherry Street.

Assessment

S&R staff made several field visits and developed a justification for installing new parking restrictions. There are a high number of right-turning vehicles at Cherry Street which queue up and block the bus-only lane. Providing another through lane at this intersection would help buses to bypass this queue.

The Fix

A request was submitted to SDOT to install PM peak parking restrictions along this block. SDOT concurred with Metro's reasoning and installed the new PM parking restrictions.

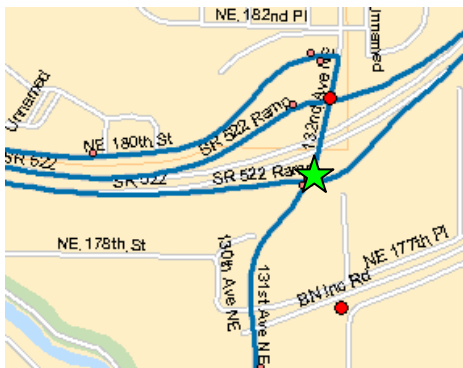
Resolution

The new PM parking restrictions help clear up traffic congestion at the 4th Avenue & Cherry Street intersection, which helps buses get around the queue of right-turning traffic that tends to block the bus lane.

Agency Staff Contacts

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SR-522 & SR-202 Eastbound Off-Ramp



Problem Reported

At the eastbound off-ramp where SR-522 crosses SR-202 in Woodinville, transit operators reported that the traffic signal did not seem to respond to vehicles in the bus-only lane on the eastbound approach, resulting in long delays at times. This was a particular problem in the early morning when there is light traffic in the adjacent traffic lanes.

Assessment

S&R Staff visited the location and contacted signal technicians at WSDOT. Fortunately, a video-detection system is in use at this location, so the signal detection zones can be easily modified with software settings.

The Fix

WSDOT signal technicians adjusted the video detection zones in the bus-only lane.

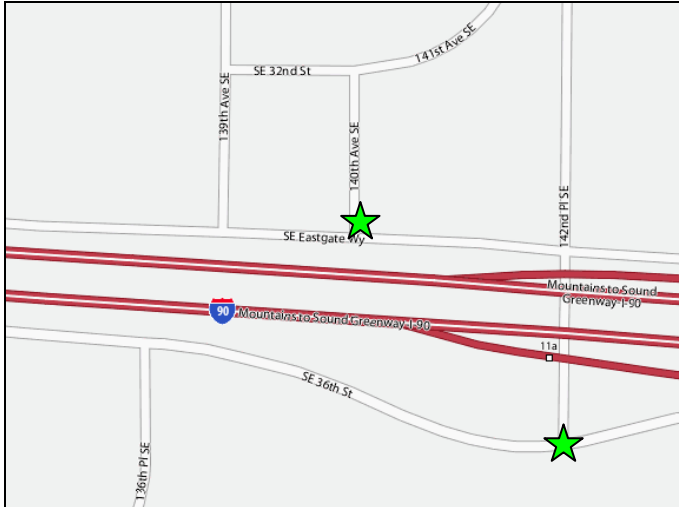
Resolution

The detection zone modifications ensure that an approaching bus will receive a green light every time without waiting for more than one signal cycle.

Agency Staff Contacts

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City of Bellevue Traffic Signal Improvements



Problem Reported

Transit operators and Service Quality representatives reported that buses would have to wait for a very long time at a red light before they could turn left at the traffic signals of 140th Avenue SE & SE Eastgate Way and 142nd Place SE & SE 36th Street in the City of Bellevue. Transit operators also reported that the delays also caused the buses to unnecessarily block vehicles as they turned out of the Eastgate Park & Ride.

Assessment

S&R staff investigated the cause of the problem and determined that the City was timing its signals to prioritize the green time for the main arterial, forcing the side streets to wait until the next signal cycle to be served.

The Fix

S&R staff contacted the City to see if there was a way to reduce the long delays being experienced by transit. The City signal operations engineer determined that the signal timing could be modified to reduce the wait time for side street traffic during many hours of the day.

Resolution

The new signal timing has significantly reduced delays for transit buses and also for other vehicles from the side streets at these two intersections.

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