

To: Joe Casey, SEPTA General Manager
From: David Forde, Chairman, SEPTA Citizen Advisory Committee
CC: Kim Scott Heinle, SEPTA Customer Service
Re: Transit First and Traffic Signal Issues for SEPTA Consideration
Date: 2/4/10

This memo describes ideas for improving the current and future “Transit First” infrastructure on the SEPTA system. The source text was prepared by committee member Norman Marcus, with edits provided by the committee and primarily Adam Krom, Vice Chair of the Transit Subcommittee. The memo has been ratified by the full CAC.

What is Transit First?

“Transit First” is the policy that public transit should have a level of priority in Philadelphia over other private traffic. In practical terms, this often takes the form of specialized infrastructure, including specialized traffic signal hardware that gives transit more priority at intersections. Several SEPTA routes received Transit First infrastructure a number of years ago, including routes 10 and 15.

General Issues

- Based on interviews with SEPTA staff and casual inspections of hardware and operations, we recommend that SEPTA have a maintenance inspection program for the signals to assure that the pre-emption receptors are operational. The signal priority system is not useful if it is not maintained. A reporting process is needed so that SEPTA can advise the City Streets Department Traffic Engineering Branch when receptors or signals are not functioning. Such a procedure already exists for potholes and manholes. A similar arrangement would allow SEPTA to advise the City of the need for repair or replacement of traffic signal elements to ensure that the system is functioning at each intersection.

Routes 10/15:

- The Transit First signal system includes transponders on vehicles and receptors on traffic signals. SEPTA maintains the transponders on the trolleys while the City maintains the signals and signal mast mounted receptors. Casual inspection indicates to us that some receptors are already missing.
- We suggest that the V-tag crew might be able to inspect and record anomalies during their routine weekly inspections of the network. An interview with Charlie Mitchell of Rail Equipment leads us to believe that SEPTA has a portable transponder tester that can be truck mounted for the V-tag crew to use for testing.
- We recommend that Callowhill Depot’s exit tracks and the Route 10 & 15 loops should be equipped with pole or overhead mounted transponder testers to test the trolleys and remotely send to Control Center which cars have defective transponders.
- We recommend that Mike Monastero be empowered to coordinate the SEPTA and the City for pre-emption maintenance in the same manner as cab signals are maintained by Car Equipment but coordinated with the Signal Department and AMTK and CSX. We believe that SEPTA installed the traffic signals under the Route 10 and 15 projects for joint SEPTA and City maintenance as described above.

- We understand that Car Equipment now has a space for transponder function checkoff for all inspections. We recommend that SEPTA verify that in fact these inspections are being conducted and find out how operation is being assessed. A presentation to the CAC Transit Subcommittee might prove helpful.
- We also recommend that SEPTA ensure that all LRT cars operating on Route 10 from Callowhill are transponder equipped, as well as for shuttles or pull-outs from Elmwood.

Future Issues for Routes 10 and 15:

- We recommend that SEPTA and the City investigate following the original Transit First signal proposal with full or lead-time regulated pre-emption of red signals, as opposed to the present, less effective, six-second green-time hold.
- We also wonder whether the Route 15 extension to Columbus Blvd. will include pre-emption and lane separation, in accordance with continuing the Transit First application on this route?

Route 36:

- Based on a casual inspection we believe that there may cause to inspect and make modifications to the Island Ave. private right-of-way light rail traffic signals.
- We recommend that Lindbergh Blvd., which was never car-actuated or pre-emptive, should be modified with a preferential timing set-up with sensitivity to time, day, and demand.
- Tanager was originally LRT car actuated, but may or may not be under City maintenance at the present time. The PennDOT transit actuators do not appear to be in place, and Mike Monastero indicates that he does not maintain anything there now.
- We recommend that SEPTA seek to have LRT car actuation and trolley signals at Buist and also Elmwood. We believe that this investment is justified because Buist Ave. is an historic high-accident trolley cut-off area between the left turn lane for highway traffic and the trolley yellow line separated median. We believe that the median should probably be curb separated here to improve safety.
- Under City maintenance, the trolley signals, which have special white signal aspects, are slowly being replaced with regular traffic heads (red/yellow/green). This is confusing to motorists especially when the trolley signal aspect is different than the vehicle signal aspect. We recommend that Mike Monastero should be empowered to coordinate this maintenance program for the Island Ave. right-of-way with the City. We recommend that contractual agreements should be created via the Legal Department to assure mutual cooperation through the future, perhaps negotiated into the Lease-Leaseback agreement.

Routes 11, 13, 34, & 36:

- We recommend that pre-emption programs for street operations of other trolley routes should be planned and programmed if the protocols discussed above become resolved.

- We recommend that signals that are light rail vehicle actuated should be considered for the 40th St. Portal area for trolleys crossing the traffic stream. Better clearance in the curves for opposing cars should also be considered for this location.
- We also recommend that all trolley routes should be equipped with more switches and cut-backs to allow for re-routing and line flexibility as part of any Transit First project. This could include reopening or restoring abandoned infrastructure as was done with 58th Street.

Route 102:

- Does the new signal project include for the suburban trolley routes include traffic signal pre-emption in any way for street operation? If not, would this be considered in the future?

Route 101:

- Have Transit First signaling measures been considered for State St.?

Route 66:

- We wonder if the Transit First infrastructure is still in service on this route, and also would like more information about the operation local and express operations.

General observations:

- We recommend that SEPTA develop a protocol for Transit First for the buses and trackless trolleys. This should encompass the issue of bus stop placement (near-side or far-side) and stop consolidation (which derailed the Route 52 project).
- We believe that the maintenance issues discussed for Route 10 and 15 need to be addressed before other Transit First routes are advanced.
- We recommend that proper equipping and maintenance of vehicle transponders at designated districts be addressed, including creation of a methodology for bus flexibility between districts that do not have Transit First routes.
- Most signals in Philadelphia are old-fashioned timer signals. Transit First signaling usually requires more modern computerized signal systems. We suggest that this modernization can have the secondary benefit of improving general traffic flow by implementing demand sensitive signals and more sophisticated phasing cycles that are sensitive to time of day and traffic conditions. In other words, Transit First may sometimes improve traffic flow for general traffic.
- In the suburbs, with full pre-emption for emergency vehicles in place in many locations, we believe that the ability to discriminate between bus actuation and emergency vehicle transponders has to be considered to create fail-safe emergency vehicle operational control.