



Pittsburgh, PennDOT planning \$30 million smart-signal system to improve traffic flow

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By Ed Blazina / Pittsburgh Post-Gazette

Pittsburgh and the state Department of Transportation are out to eliminate a problem most motorists know all too well: sitting at a traffic light on a major thoroughfare for two minutes with no traffic passing through from the cross street.

Over the next three years, the city and PennDOT expect to install what are known as adaptive traffic signals at 126 intersections in eight neighborhood corridors that will read existing traffic conditions and adjust signals to keep traffic moving. Another part of the \$30 million program will establish a traffic management center Downtown to help traffic flow in the Golden Triangle.

The city submitted the project to the Southwestern Pennsylvania Commission last week as an amendment to agency's regional transportation plan. The agency will take comments on the project for one month beginning Wednesday and its board is expected to vote Sept. 25 to approve the signal project.

The program is an outgrowth of the city's unsuccessful effort last year to win the \$50 million Smart Cities Challenge grant from the federal Department of Transportation. The department was so impressed with the city's idea to establish "smart spines" on busy traffic corridors that even though it did not award the grant it still provided \$12 million for the program. The remainder will come from state and local sources, but the exact breakdown is not clear.

When the system is finished, said Karina Ricks, director of the city's Department of Mobility and Infrastructure, Pittsburgh will have the largest adaptive traffic signal system in the country.

"We will be the leading city in the country in this technology," Ms. Ricks said. "It will mean we will also be the proof of the concept.

"There is still a little bit of an element of experimentation that will be involved. But there's every

expectation this will do something great for the city.”

Todd Kravitz, PennDOT’s traffic engineer for Allegheny, Beaver and Lawrence counties, said the state decided to contribute to the program because it sees the city’s idea as an opportunity to expand the use of adaptive signals. The state has used the technology in areas such as McKnight Road in Ross and McCandless and Route 22 in Monroeville and Murrys ville to allow traffic to keep moving on the main road until traffic builds up on the side streets.

“We are eager to be managing this project with the city,” Mr. Kravitz said. “We’re excited about it because it is a chance to display the technology on some of those roads.”

The signals typically use cameras and radar to read traffic on main and side roads, including pedestrians and bicyclists. They change according to the amount of traffic with a goal of keeping traffic moving on the main road as much as possible.

Instead of a time-set cycle like traditional traffic lights, the adaptive signals automatically will adjust for changing traffic conditions throughout the day, seasonal changes and economic growth in the area.

“Timing lights can’t do that — they are set to change at a certain time no matter what,” Mr. Kravitz said.

Many of the intersections also will include audible pedestrian signals.

The city’s plan calls for the new signals on Forbes and Fifth avenues as part of the Bus Rapid Transit project; Bigelow Boulevard; Second Avenue; Centre Avenue; Penn Avenue; Route 51; and West Liberty Avenue. PennDOT also is involved because several of the streets are state roads. It has not been determined what intersections of the roads will be controlled by the signals.

Fifty of the intersections are part of the Bus Rapid Transit system that will be built between Downtown and Oakland, with electric vehicles using designated lanes on Forbes Avenue outbound and Fifth Avenue inbound. The signals will allow buses to move before other traffic and can be set to give trucks or other specific vehicles priority in certain neighborhoods.

The city piloted the use of such signals with the Surtrac system in East Liberty developed by Carnegie Mellon University. Mr. Kravitz said the new program will be awarded by bids and other providers could win the contract for the project.

Ms. Ricks said installing the signals shouldn't cause major traffic disruptions and individual signals can be used immediately, although their performance likely will be improved when the whole system is in place.

In addition to the signals in outlying neighborhoods, the city is planning a traffic management center for Downtown, where most streets can be busy and there aren't any main corridors. The city is in the last phase of a multi-year project to replace traffic signals Downtown and will use a system of cameras and other technology to monitor traffic and adjust signals accordingly.

"The Surtrac system is great in the corridors but it doesn't work in an area like Downtown," Ms. Ricks said. "That's why part of this [traffic improvement program] is to support a traffic control center for Downtown."

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