



SYSTEMS PERFORMANCE, OPERATIONS, AND TECHNOLOGY SUBCOMMITTEE (SPOTS) MEETING

March 8, 2017
1:00 P.M. – 2:30 P.M.
Room 1

ATTENDANCE:

Melissa Chow – WMATA
Scott Cowherd – VDOT (by phone)
Soumya Dey – DDOT
Bob LeSueur – Sensys Networks
Curt McCullough – City of Fairfax (by phone)
Amy McElwain – VDOT (by phone)
Andrew Meese – COG/TPB
Sree Nampoothiri – NVTA (by phone)
Alex Rixey – Fehr & Peers DC
Tom Scherer – Arlington County
Jon Schermann – COG/TPB
Amit Sidhaye – Arlington County (by phone)
Daivamani Sivasailam – COG/TPB
Patrick Zilliacus – COG/TPB

MEETING NOTES

1. WELCOME, INTRODUCTIONS, AND REVIEW OF NOTES

Participants introduced themselves, and notes from the December 14 meeting were presented. Mr. Meese provided acknowledgement and thanks to Marco Trigueros, who had moved on from COG/TPB staff to a new job.

2. REMEMBRANCE OF JEAN YVES POINT-DU-JOUR

Participants provided remembrances of longtime SPOTS and MOITS chairman Jean Yves Point-Du-Jour, who passed away unexpectedly on February 3, 2017. A moment of silence was observed.

3. AUTONOMOUS VEHICLE BEHAVIOR TESTING WITH THE COG/TPB TRAVEL DEMAND MODEL

Mr. Meese introduced Mr. Rixey, with an adaptation of a presentation that had been made to the TPB Travel Forecasting Subcommittee in January. Mr. Meese noted that the field of transportation planning is just beginning to grapple with the changes that will be wrought by autonomous and

connected vehicles, and that the study presented by Mr. Rixey will shed some light on some of the topic areas that will be of concern.

Mr. Rixey introduced himself from the firm of Fehr & Peers DC. The motivation behind the testing was the uncertainty about the future regarding emerging technologies, with huge implications on how we might plan and operate our transportation systems. Vehicle miles of travel trends have been volatile in recent years. Fehr & Peers likes to invest in its own research, and has been doing some thinking about future technology trends, including this work.

Fehr & Peers tested seven travel demand models, including the one used by COG/TPB, testing eight different potential effects of autonomous vehicles, plus a test of all effects combined. There were a broad range of results across different geographies. The sensitivity tests examined access time, parking costs, in-auto time, auto availability, freeway capacity, non-work trip-making, and auto occupancy. The tests assumed potential increases or decreases in these parameters based on a fully autonomous (Level 4) vehicle fleet, on freeway lanes only. Also examined were privately-owned vehicle arrangements versus vehicle sharing arrangements.

The test of the COG/TPB model indicated, at levels consistent with findings elsewhere, an expected increase in VMT (+46.9%) and vehicle trips (+24.6%), and a decrease in transit trips (-26.0%).

In response to a question from Mr. Scherer on how transit costs versus autonomous vehicle costs were considered, Mr. Rixey stated that only parking costs were explicitly considered.

In response to a comment from Mr. Zilliaccus, Mr. Rixey agreed that it is uncertain how quickly autonomous vehicles were become common. Mr. Sivasailam noted the rate of vehicle fleet turnover, now averaging 12 years. Mr. Zilliaccus added that vehicles on slower roads may come earlier, such as an autonomous bus in the National Harbor area.

In response to a question from Mr. Meese, Mr. Rixey was not aware of autonomous vehicle planning or scenario development by other areas involved in this test, other than what had been cited for the Atlanta region.

In response to a question from Mr. Sivasailam, Mr. Rixey stated that the projected decrease in transit use was due to a combination of the factors tested. Mr. Meese cited discussions at the most recent TRB that transit may regroup into the highest capacity line-haul services, with feeder routes being supplanted by autonomous vehicles. And transit operations themselves may change in ways not reflected in these tests.

In response to a question from Mr. Meese regarding the impacts of freight vehicles, Mr. Rixey agreed that the tests did not make any changes to the freight components of the tested models, and had no information on whether other regions were making changes to the freight components of their models.

Mr. Meese noted that the TPB has created a Long-Range Planning Task Force interested in thinking outside the box, and may make inquiries to SPOTS regarding autonomous vehicle scenarios.

In response to a question from Mr. Sivasailam, Ms. McElwain noted that Hari Sripathi has been appointed the statewide autonomous and connected vehicle deployment lead, among a number of Virginia research initiatives and pilots. He will work with Virginia Lingham of the VDOT Central Office, who will be on the planning/policy side.

4. DEVELOPING SUSTAINABLE PERFORMANCE PRICING STRATEGIES FOR ON-STREET PARKING USING TECHNOLOGY, ECONOMICS AND BIG DATA ANALYTICS – THE WASHINGTON DC EXPERIENCE

Mr. Dey presented, referring to a PowerPoint describing the “parkDC: Penn Quarter/Chinatown program overview”; the technology assessment and system design; and the impacts of price changes.

Goals included improved customer experience; reduced time to find parking; increased parking availability; more reliable parking information for drivers; potential to reduce congestion, increase safety, and encourage use of other modes; improved turnover of high-demand parking spaces; and incentives (lower prices, longer time limits) on low-demand parking spaces. He described an asset-lite approach (to drive the cost down), and that they pursued the concept of multimodal demand pricing. They launched an app “parkDC”, partnered with private garages (since DC does not own public garages) regarding their pricing. They designed the system to be park-by-space (rather than zone). They used algorithms to provide probabilities of finding an open space on a block, which avoided costs of equipment needed for space-by-space tracking. Several sensor technologies were examined, and two types were chosen.

Regarding the pricing scheme adjustments, in the first round of changes, 61% of the spaces were held at the same price, 13% were decreased, and 26% were increased. Overall occupancy increased. Some blocks were successful, others needed further adjustments. Continued data analysis and adjustments balance supply and demand. In response to questions, Mr. Dey pointed out some specific block price adjustments and the logic behind them.

In the Fourth Quarter of 2017, a comprehensive analysis of the program was planned.

In response to a participant question on time limits (e.g. two hours versus four hours), Mr. Dey noted that they had so far examined price changes to shape demand, but perhaps in the future they would also look at adjustments to parking time limits as another way to shape demand, though nearby land uses are an important consideration to determining parking time limits.

In response to participant questions, Mr. Dey noted they were considering both occupancy of parking spaces and duration of vehicle stay in determining success. Nearby businesses were among those surveyed in surveys of reactions to the program. Information on impacts on private-sector parking facilities was not available for analysis. They have not looked at impacts on parking revenues, which was not a goal of the program – improving the parking experience was the goal. Adjustments will have to be an ongoing process – things change.

In response to questions from Ms. McElwain about the maintenance program and snow removal/salting impacts, currently the assets are part of the contract of the installer, but they will become DDOT assets. In-pavement sensors are flush-mounted; information on their location has been shared with plow operations, and no problems have been experienced so far.

In response to a question from Ms. McElwain on interjurisdictional coordination on parking apps, Mr. Dey noted their approach had been to provide their data through APIs, for the private sector to develop apps. The goDC app integrated across modes. Parkmobile is usable in both DC and Arlington.

5. UPDATE ON ONGOING ANALYSIS OF TRANSPORTATION IMPACTS OF WMATA'S SAFETRACK PROGRAM ACTIVITIES

Mr. Sivasailam briefed the group on a presentation that had been made to the TPB Technical Committee, looking at SafeTrack Surges 1 through 6. A July 2016 presentation to SPOTS had looked at vehicle probe data; this current effort added a look at impacts on other modes, including buses, bicycling, and bikesharing. Results versus May 2016 (just before SafeTrack began) were shown. Surge 1 showed the biggest impacts; other Surges only had impacts within the order of magnitude of normal traffic variation. Also noted was that most surges took place during summer, when congestion in general is lower. An estimate of what modes surge-impacted Metrorail riders switched to was shown. Overall, though impacts were observable, the region's systems proved to be resilient.

6. OTHER BUSINESS

Today's presentations were to be posted on the COG/TPB website. The regularly scheduled next meeting was to take place on Wednesday, April 12, 2017, 1:00 P.M. in COG Meeting Room 1 [later canceled].

7. ADJOURN

The TPB is staffed by the Department of Transportation Planning of the Metropolitan Washington Council of Governments.

Reasonable accommodations are provided upon request, including alternative formats of meeting materials. For more information, visit: www.mwcog.org/accommodations or call (202) 962-3300 or (202) 962-3213 (TDD)