

Title: Flexible Carpooling to Transit Stations / GO Transit

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Experiment: On Five Seattle-Area Transit Station Parking / Smart Commute Tool

Objective is to investigate and define flexible carpooling service to increase the amount of carpooling to transit stations, and designed a field operating trial to test the concept. Many transit stations are overflowing therefore, Transit ridership could be increased/ the effectiveness of investments in parking at transit stations must improve, only if mechanisms could be developed that encourage more people to carpool to stations.

There are two types of Carpooling defined in this article, one is Flexible Carpooling which is characterized by an absence of the trip by trip rearrangement found in other carpool formation systems, relying on sufficient people arriving at the meeting place seeking rides by lining up by the station. The other type is Informal Flexible Carpooling, which is seen as evidence that the underlying behaviors can occur, and that this style of carpool formation, without the complex matching systems found in other carpool solutions, this method can attract significant numbers of users.

If a transit station is at a 'high volume destination', then they could create a system, so it can be established in which people would form flexible carpools and enable a greater number of people to access any given transit station and therefore increase transit ridership. It could the equivalent of a slug-line be established (a "formal flexible carpool" because it would be part of the formal public transport system) to get people to transit rather than all the way to a final destination. Such a system could contribute to reduction in congestion in many metropolitan areas at a lower cost than expanding parking at transit stations, or providing shuttles on the same routes.

In order to find an appropriate route to evaluate, five popular Seattle-area transit station parking facilities were selected and their usage analyzed. One was Summer, Washington it's a small town roughly 33 miles south of Seattle. At the Summer train station the parking facility there has 286 spaces plus an Adjacent 41 space unpaved, a total of 327 Spaces. The station is at over capacity at 6:15 am on week-days/ there are 6 subsequent commuter train service. Therefore they're considering expanding the parking capacity, by reserving 50 spots at the Summer Station for Flexible Carpools, plus add 100 spaces to a nearby Station at Bonney South PNR. If fully utilized this would reduce demand at Sumner Station by 50 spaces per day, and increase Sounder ridership by 100 people per day. It would be the equivalent of adding 100 parking spaces at the Sumner Station without incurring the estimated \$3 million capital and \$60,000 annual operating costs associated with such an expansion.

In Canada, they approached this situation similarly by creating a system with GO Transit. The system that they created implied that by expanding parking lots of five

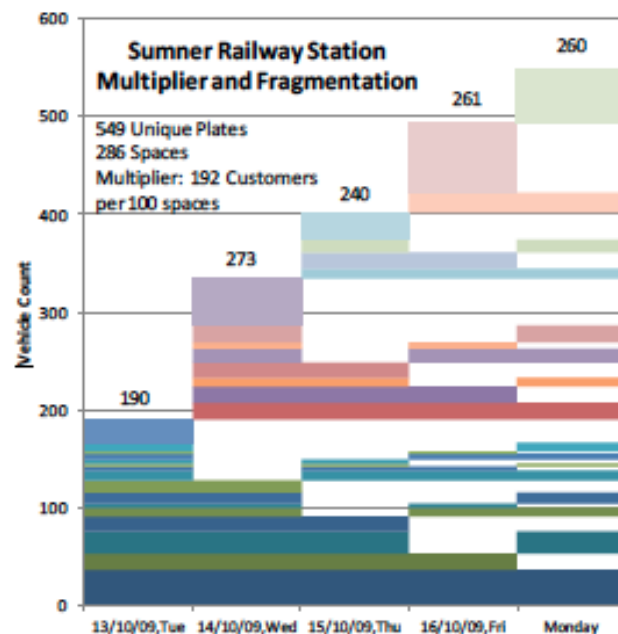
cities all around the Halton Region. In their study of expansion they concluded that the correct way of dealing with this was to provide carpool parking for any commuter to leave their car in a nearby parking lot and catch a ride with a fellow co-worker or friend to their

nearest station. A key strategic component of *The Big Move* is to improve the efficiency of the Greater Toronto and Hamilton Area's network of road and highways, through better monitoring and planning, promotion of ride-sharing and car sharing, and the use of tools that improve traffic flows. This tool will match the user with others who have a similar travel plan. Also by using the tool one can search and view potential trip matches that are based upon a specific radius from the origin and the destination or even along the route to the nearest train station.



From that they realized that the most preferable of carpooling is characterized as express carpooling, which works best when there are many commuters making convergent trips from an origin

destination, past a meeting-place. The greater the number of trips the greater this project will succeed. In a study for the Transportation Research Board, they gathered in time span of five days license plates that were parked at the summer stations, with that data they created a chart:



Explanation: Over the week, 549 unique vehicles were observed, even though the train station has only 286 spaces. 37 vehicles (represented by the blue bar across the bottom of the graph) were seen all five days. 16 vehicles (represented by the olive-green bar just above the blue bar) were seen on the first four days but not on the fifth. At the other end of the scale, the light green box at the top of the Monday column represents 55 vehicles that were seen only on the Monday. This data challenges the conventional view that the same group of people uses the park-and-ride every day. It also suggests that there is significant latent demand for parking at Sumner Station.

An option to have more commuters to be willing to take part of this experiment would be, if the driver covers a Sufficient distance from the convergence point to the

station such that any time spent getting a fuller vehicle would be repaid through the value of the trips provided to other people assuming for this purpose that drivers receive (from riders) a ride-credit for providing the ride, and the ride-credit has value. An online survey was created on how often do they drive to work, do they take public transportation, an incentive was offered for those completing the survey entry to win a 500\$ gift certificate.

Conclusion:

After captivating their methods on setting up an environment that consists of constant combustion of commuters trying to find the spot at their nearest train station. I have concluded that the best methods that should be adopted in Israel would be to show more appreciation towards the commuters that have to drive their cars to the nearest train station from their household. The best way to show this would be to set up a system that keep track on individual drivers that are parking at that are parking there on a daily basis. Once the log is created a rewards system could be set up to the cars that are usually there, this could be done would be to inform the driver beforehand that he/she has been selected to receive some sort of reward every week if they take up to three passengers in the vehicle on a daily basis. I believe this method would affect the drivers in indefinitely way because they would see that helping others by bringing more passengers with them in the car is a win-win situation for both parties of the spectrum. With this emplaced there would be less chaos in finding spaces and there would not be any traffic into the station.

Link to Original Article:

Minett, Paul. Flexible Carpooling to Transit Stations. Washington, D.C.: Transportation Research Board, National Research Council, 2013. Online Publications. Web <http://onlinepubs.trb.org/Onlinepubs/IDEA/FinalReports/Transit/Transit61.pdf>

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Carpool to GO - Smart Commute Halton

<http://smartcommute.ca/halton/commuter-options/carpool/carpool-go/>

"GO Transit and the High Cost of "free" Parking." Marshalls Musings. N.p., 12 Nov. 2015. Web. 09 July 2016.

<https://seanmarshall.ca/2015/11/12/go-transit-and-the-high-cost-of-free-parking/>