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Matching L.A. Travel Patterns and Metro Bus Service



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Issue

If the health of a public transportation agency can be measured, in part, by its ridership, then the Los Angeles County Metropolitan Transportation Agency could use a trip to the doctor. A recent report from the UCLA Institute of Transportation Studies shows that Metro experienced a steady ridership decline between 2007 and 2015. Despite an overall decline in the system's ridership numbers, however, the year 2020 also revealed the high degree of reliance on Metro's service, in general, and the bus system in particular.

In early 2020, the COVID-19 pandemic emerged, destabilizing U.S. economic, business, entertainment, and public transportation sectors. According to data from the National Transit Database, monthly transit ridership hit a low of 156.6 million rides in April 2020, 81.3% lower than the 835.2 million rides taken in April 2019.

In the midst of these challenges, Metro has allocated significant resources (time, money, political) to rework its bus network through the NextGen initiative, the first sweeping overhaul of the bus system in 25 years. Metro must carefully consider the travel patterns of current and future transit riders.

Study Approach

The researcher compared travel patterns in Los Angeles County with Metro bus service to identify areas where service could be better aligned and, if so, what low-cost interventions could match the need.

Using location-based service (LBS) cell phone data from October 2018, origin and destination analyses were conducted within Metro's four major service areas, South Bay - Gateway Cities, San Gabriel Valley, San Fernando Valley, and Westside / Central Los Angeles. Within each service area, further analysis was conducted to review the respective region's travel length patterns, as well as travel time patterns, using Metro's TAP data.

Research Discussion and Conclusions

Detailed analysis is provided below, but generally, a few trends emerged across all service areas:

- Consistent with previous research, our data revealed that most LBS trips terminate at between 1-5 miles.
- There were a few notable exceptions, especially for trips originating in the San Fernando Valley. About 20% of riders engaged in LBS trips longer than 10 miles.



Figure 1. Rider awaits to load their bike onto Metro bus in East Los Angeles. Credit/Edgar Mejía

The location-based service and census data revealed most trips were local with the majority of trips measuring 5 miles or less, with a few exceptions. For example, many trips originating in the Chatsworth / West San Fernando Valley had a destination of over 5 miles away. By examining the transportation network, perhaps most of this travel could be attributed to the adjacent state Route 118 given its direct highway access to those otherwise distant neighborhoods.

To address this travel trend, we recommend providing an express service along Route 118. Originating in Chatsworth, this service could provide access to neighborhoods in the West San Fernando Valley, like Porter Ranch, Granada Hills, and Northridge.

Similar to Chatsworth, our analysis revealed long travel miles for travel originating in San Pedro. We found existing travel patterns between San Pedro and the Torrance and Carson neighborhoods. However, currently, no reliable bus link exists between these communities. As such, we recommend a direct bus service between San Pedro and Torrance.

In Southeast Los Angeles, we recommend that the 105 bus continue into at least the main streets of Huntington Park, if not terminating at Lynwood.



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