

Attachment 1: Estimated Cost for a Fixed Paratransit Operating Schedule

Goal:

Estimate the cost of expanding paratransit hours of operation for a fixed period beyond ADA minimums.

General Approach:

As part of a rough cost estimation methodology, staff operated under the baseline assumption that all paratransit service within a $\frac{3}{4}$ mile of the District's fixed-route network would run no less than between 5:00 a.m. and 12:00 a.m., even if service on no corresponding fixed-route exists at the time.

Data Sources:

- Exports from HASTUS to Adept paratransit scheduling software, including $\frac{3}{4}$ mile buffers for all route patterns from Fall 2025 sign-up, as well as corresponding service span data by day type.
- Actual completed East Bay Paratransit trips from September through November 2025.
- Tract-Level counts from the 2024 Census American Community Survey (ACS) 5-Year dataset for "Sex by Age by Disability Status" (B18101 table, attributes for males and females ages 18+)¹
- H3 hexagonal grid system² to aggregate data into standard geographies

Processing Steps:

- 1) Used typical inputs to Adept paratransit scheduling software, including $\frac{3}{4}$ mile buffers for all route patterns from Fall 2025 sign-up with corresponding service span data by day type (Weekday, Saturday, Sunday).
- 2) Grouped all day types into half-hour chunks (e.g. 5:00:00 a.m. – 5:29:59 a.m., 5:30:00 a.m. – 5:59:59 a.m.) for analysis.
- 3) For each half hour of each day type, used $\frac{3}{4}$ mile buffers to evaluate areas where service was provided and not provided throughout the day. This helped identify new areas that could see new paratransit service coverage at additional times of day. For example, supplemental school service or peak-only Transbay run at limited times

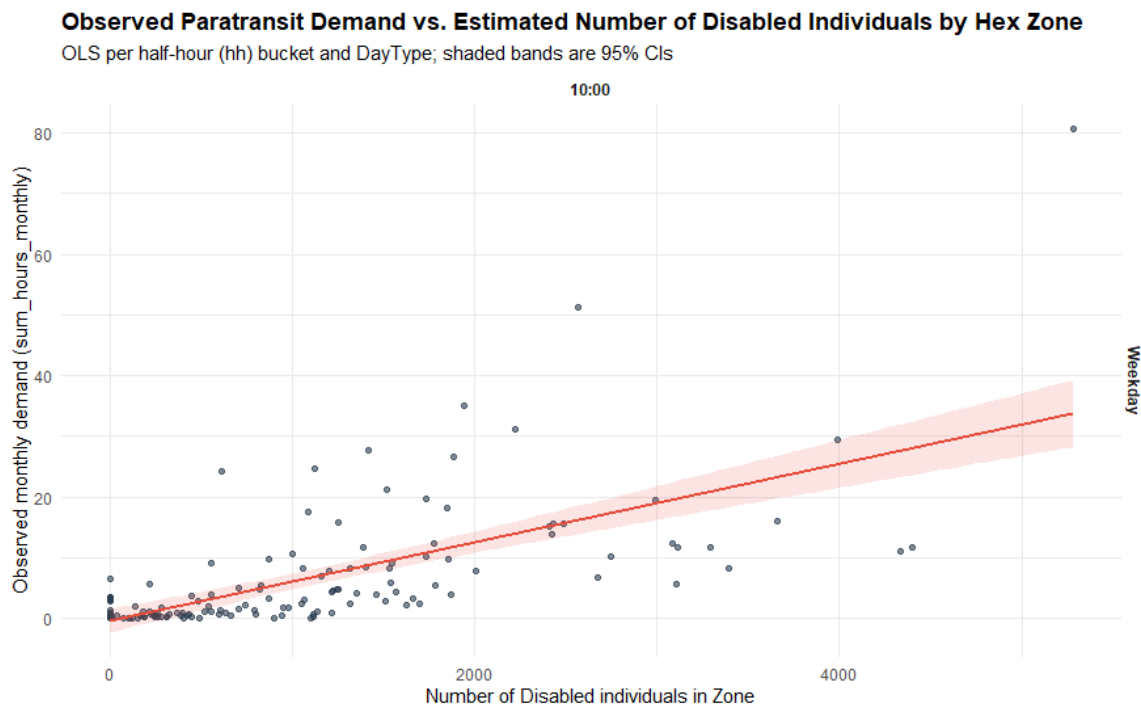
¹ See relevant API documentation of individual variables from US Census Data API <https://api.census.gov/data/2024/acs/acs5/groups/B18101.html>

² Reference June 27, 2018 Uber blog post -- <https://www.uber.com/blog/h3/>

and changing to operate within the District’s proposed full-service footprint between 5:00 a.m. and 12:00 a.m. would allow paratransit trips in those areas to be made at other times above and beyond a corresponding fixed route’s service span.

- 4) Used areal interpolation to allocate tract-geography counts for “Adults with a Disability” into corresponding H3 hexagons at a grid resolution of 7.
- 5) Allocated revenue hours for actual paratransit trips made into these corresponding H3 hexagonal zones, and annualized.
- 6) Generated over 100 linear regression models for each day type (Weekday, Saturday, Sunday) and half-hour period, linking disability prevalence with actual revenue hours by hexagonal zone.

Figure 1: Sample Table of Linear Regression Line for Weekdays during 10:00 a.m. -10:29 a.m. Time Period



- 7) Used these linear regression models to predict annual revenue hours by day type across the service area.
- 8) Exported a map depicting the estimated increase in annual unlinked trips by geography, depicted in Figure 3.

Estimated Costs:

Figure 2: Estimated Costs

Day Type	Estimated Annual Hours	Estimated Annual Cost at NTD \$131.26/hour	Estimated Unlinked Trips
Weekday	8,338	\$ 1,094,446	26,249
Saturday	1,173	\$ 153,968	4,841
Sunday	1,013	\$ 132,966	3,778
Total	10,524	\$ 1,381,380	34,868

This method was intended as a rough estimate for the board’s reference and should not be seen as an authoritative projection of future operational costs. Staff believe this estimate may be too low and that additional work is needed to fully understand potential costs, operational impacts, and equity considerations. Any future changes to paratransit policy need to be made in collaboration with BART, our partner.

Figure 3: Map of Modeled Demand Increases

