HICKORY RIDGE GROUP

PARATRANSIT

PEER REVIEW

RTC OF SOUTHERN NEVADA
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INTRODUCTION

From the Request for Proposals (RFP) No. 18-080 Paratransit Survey:

The RTC’s current paratransit service area complies with the American’s With Disabilities Act’s requirement by providing paratransit service to origins and destinations within three fourths of a mile of a bus route. At present the cost of providing a one-way paratransit ride costs the RTC $32.00 compared to $2.13 for a fixed route ride. Prior to 2011 the RTC’s paratransit service extended three fourths of a mile beyond the ADA’s minimum requirement of three fourths of a mile from a bus route for a total of one and a half miles.

In 2011, due to the high cost of delivering paratransit service coupled with the economic downturn at that time, the RTC’s Board of Commissioners voted to retract the service area from a mile and a half to the minimum requirement of three fourths of a mile from a bus route. In doing so the paratransit eligible customers within the retracted three fourths of a mile were grandfathered so long as they continued to reside at their address of record that was no longer within the paratransit service area. If the grandfathered customer moves from the address their grandfathered status immediately ends.

Since the 2011 retraction of the service area there have been numerous public requests to expand it for individuals, groups and the public in general living outside the current service area. In recent years the economy has recovered and with that there has been increased public pressure to expand the service area beyond the ADA’s minimum requirement of three fourths of a mile from a bus route. As such the RTC is seeking a comprehensive study of its top 50 industry peers on their individual service areas, if they exceed the minimum requirements outlined by the ADA, and if so, how they provide the service, fund it, etc.

The intent of this study is to investigate peer agencies and their provision of paratransit service outside the service area (“OOSA”). The study delves into their general transit funding sources, general operating characteristics such as service area miles and population, paratransit-specific operations, costs, and budget, and OOSA provision, cost and funding. Data was collected directly from agencies via the Paratransit Peer Review Survey, the National Transit Database 2016 Agency Profiles, the National Transit Database time series data, transit agencies annual financial statements, and personal interviews with transit agency personnel.

Recommendations are provided for discussion stimulation, toward the goal of achieving parity with peer transit agencies.
EXECUTIVE SUMMARY

This section provides a summary of top-line results from the Paratransit Peer Review. This study analysis is based on data collected from a survey distributed to RTC’s top peer transit agencies nationwide, data in the National Transit Database (“NTD”), and agency financial statements.

Definitions: “Overall transit” refers to both fixed and paratransit service. “Productivity” refers to a volume of production. “Efficient” or “efficiency” refers to the ratio of output (or productivity) per input.

PARATRANSIT SERVICE OUTSIDE THE SERVICE AREA

41 Paratransit Peer Review survey respondents answered the question do they provide paratransit service beyond the ADA mandate of ¾ miles from fixed route service, also called outside the service area (“OOSA”). Of those 41, 18 (44%) provide service OOSA while 23 (56%) do not provide service OOSA. See page 110. For the sake of brevity, agencies which do not provide paratransit service outside the service area will be referred to as non-OOSA.

Agencies OOSA have on average a denser service area as indicated by a smaller average service area but higher average population. Despite this higher density, OOSA agencies are much less productive for transit in all modes as measured by passenger miles traveled (“PMT”) and unlinked passenger trips (“UPT”), and less productive for demand response (“DR”) when using purchased transportation, as measured by PMT and UPT. See Results: OOSA versus Non-OOSA beginning on page 110.

FUNDING

RTC is well-below average sales tax devoted to overall transit. See Figure 82 on page 109.

Agencies which seek additional OOSA-specific funding appear to have increased productivity in terms of both PMT and UPT. See Figure 115 on page 147 and Figure 117 on page 150.

OPERATIONAL FUNDING

RTC provides far more UPT with far less total operational funding than its peer agencies. Note that UPT include both fixed and paratransit trips. The four agencies receiving close to the same amount of operational funding as the RTC are producing between 30 and 40 million trips, less than half what RTC generates. See Figure 29 on page 52.

Local dollars funding overall transit operations are approximately equal for both agencies providing service OOSA and non-OOSA agencies, an average of $200 million, while entirely absent from RTC. See Figure 95 on page 123.

Non-OOSA agencies receive dramatically higher funding from the state for overall transit operations, while agencies providing service OOSA receive very little. RTC
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receives $116 million, or over three times the agencies providing service OOSA average in state funding, $34.6 million. See Figure 95 on page 123.

Non-OOSA agencies receive a much higher amount of federal funding for overall transit operations than service OOSA agencies, and both considerably higher than what is received by RTC. See Figure 95 on page 123.

“Other” operating funds account for a small but existing portion of both non-OOSA and agencies providing service OOSA at a ratio of roughly 2:1. RTC has no operational funding in this ‘other’ category. See Figure 95 on page 123. Note that “Other” is a category of funding sources as provided by the NTD.

CAPITAL FUNDING

There are 5 transit agencies receiving about the same level of capital funding for overall transit as RTC and providing considerably more UPT1. See Figure 32 on page 55. RTC does not receive or use the following funding sources for capital funding for overall transit: fares, local funding, or “other” sources.

Fares as fund sources to cover capital expenses for overall transit are much higher for non-OOSA agencies, nearly absent in service OOSA agencies, and entirely absent in RTC. See Figure 96 on page 125. Local dollars funding transit capital are much higher for service OOSA agencies than for non-OOSA agencies, and absent for RTC. Figure 96 on page 125.

The majority of the RTC’s capital funding originates from federal sources. Non-OOSA agencies receive marginally higher federal funding for transit capital, while OOSA agencies receive 44% less than non-OOSA, and 41% less than RTC. Figure 96 on page 125. The “Other” category of funding for transit capital shows a comparatively small amount of funding for transit capital for non-OOSA, less for service OOSA agencies, and none for RTC. Figure 96 on page 125. Note that “Other” is a category of funding sources as provided by the NTD.

OPERATING EXPENSES

No other agencies are producing the same or more total UPT (inclusive of both fixed and paratransit) at the same operating expense as the RTC, thereby illustrating the cost efficiency at which RTC produces UPT. See Figure 37 on page 61, Figure 49 on page 75, Figure 56 on page 82, Figure 52 on page 78, and Figure 60 on page 87.

In terms of DR trips only, of agencies incurring about the same amount of DR operating expense, RTC falls into the average of efficiency in converting those dollars into DR UPT. See Figure 40 on page 64.

1 Note: $3.8 million of the RTC state capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit) and $71.3 million of the RTC federal capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit).
RTC purchased about 3 times more dollars' worth of purchased transportation (“PT”) than either service OOSA or non-OOSA agencies for total transit. See Figure 97 on page 127.

Service OOSA agencies have, on average, a higher operating expense per UPT than non-OOSA agencies, and about double the operating expense per UPT of the RTC. See Figure 105 on page 135.

**FARES**

**WITHIN ADA MANDATE**

RTC charges below average fares for paratransit service within the ADA mandate. See Figure 63 on page 90.

**COMPARING OOSA AND NON-OOSA**

Agencies not providing paratransit service OOSA outproduce those agencies providing paratransit service OOSA for both PMT and UPT. The data indicates a reduced overall DR production capacity when implementing paratransit service OOSA. See Figure 86 on page 114, Figure 88 on page 116, Figure 90 on page 118, and Figure 94 on page 122.

Agencies *not* providing OOSA receive dramatically higher fares for funding transit operations than either OOSA or RTC. See Figure 95 on page 123.

On average, within ADA-mandate fares were highest in agencies with no OOSA provided, lower in agencies providing service OOSA, and lowest in RTC. See Figure 106 on page 136.

**OOSA**

The fare OOSA in this data set among peer agencies is a maximum of $16, minimum of just below $2, and average of $5. See Figure 112 on page 143.

**COST**

RTC has a higher percent paratransit budget than 85% of agencies which responded to this question, two of which are outliers at 100%. See Figure 76 on page 103. RTC spends 25% of its transit budget on paratransit service within the ADA mandate. This is 39% more than OOSA agencies spend on average (18%), and 56% more than non-OOSA agencies (16%), in percentage only, not in total dollars. See Figure 109 on page 139, Figure 70 on page 97.

The RTC paratransit budget is significantly higher than other agencies at any level of production. A total of 10 agencies have lower paratransit budgets and are producing more UPT than the RTC. See Figure 72 on page 99. The RTC paratransit budget is also higher than peer agencies with a similar service area population, of approximately 2 million. See Figure 73 on page 100.
RTC falls just below the average cost to agency for paratransit service within the ADA mandate, at $32. See Figure 77 on page 104. The average cost to the agency to provide paratransit inside the ADA mandate is $38, while the average cost to provide paratransit outside the ADA mandate is approximately $40, and RTC’s cost is $32. See Figure 108 on page 138.
RECOMMENDATION SUMMARY

This section will present recommendations for achieving parity with peer agencies, and on providing paratransit service outside the service area. These concepts are not prescriptive and are presented solely to generate thought and consideration and are presented here as stimulus for further discussion.

OOSA

Because the majority of responding peer agencies do not provide OOSA, implementing service OOSA by RTC is not suggested, if parity is desired.

To provide further information on the cost and benefits to the community of implementing service OOSA, a benefit cost analysis (“BCA”) and economic impact analysis (“EIA”) is recommended.

FUNDING TRANSIT

To achieve parity with peer agencies, RTC should seek additional and new funding sources such as local funding, including sales tax funding, and “other” funding sources. See page 163.

OPERATIONS FUNDING AND OPERATING EXPENSES

Maintain the RTC’s current highly-efficient use of operations dollars and operating expenses.

CAPITAL FUNDING

Increase the RTC’s efficiency in converting capital funding into production, as measured in UPT\(^2\).

FARES

Consider altering the within-the-ADA-mandate fare structure to reach parity with peer agencies.

PARATRANSIT BUDGET

Identify ways to reduce the percent of the total budget devoted to paratransit to reach parity with peer agencies.

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\(^2\) Note: $3.8 million of the RTC state capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit) and $71.3 million of the RTC federal capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit).
RESULTS: AGENCY COMPARISON, ALL MODES

The National Transit Database ("NTD") provides several data points which were collected in addition to the survey data of the Paratransit Peer Survey. This secondary data from NTD was integrated with the survey data on a 1 to 1 basis, providing criteria for comparing each agency beyond simply their survey responses. This secondary data allows us to compare agencies to evaluate where the Regional Transportation Commission of Southern Nevada ("RTC") falls upon the continuum of studied agencies.

The data variables used to compare agencies are total UPT, PMT, and in a few cases, service area population. Total UPT and PMT include all UPT and PMT inclusive of both fixed and paratransit routes. The objective of this study is to evaluate peer agencies’ paratransit operations, costs, and funding, and comparing peer agencies with an overall productivity metric provides a more specific understanding of which agencies are peers more precisely to RTC based on productivity. See the definition of productivity for the purposes of this study on page 11.

In order to understand which agencies are true, comparable peers to the RTC and therefore to which agencies RTC should look for guidance in achieving parity or higher, the agencies responding to the Paratransit Peer Survey will be compared to one another based on data collected from the NTD database and agency profiles. The agencies will be compared on several criteria:

- Service area miles
- Service area population
- Passenger miles
- UPT
- Vehicle revenue miles
- Vehicle revenue hours
- Vehicles operated in maximum service ("VOMS")
- Sources of operating funds
- Sources of capital funds
- Operating expenses
- Operating expenses per vehicle revenue mile
- Operating expenses per vehicle revenue hour
- Operating expenses per passenger mile
- Operating expenses per unlinked passenger trip

Note that while all transit agencies have entries in the NTD, only those agencies responding to the Paratransit Peer Survey will be included in the following comparison figures.
Service Area, as defined by the NTD Glossary (2017), is:

A measure of access to transit service in terms of population served and area coverage (square miles). The reporting transit agency determines the service area boundaries and population for most transit services using the definitions contained in the Americans with Disabilities Act of 1990 (ADA), i.e. a corridor surrounding the routes 3/4 of a mile on either side, or for rail, a series of circles of radius 3/4 mile centered on each station. Transit agency reporters are required to submit service area information.

Figure 1 shows the total service area miles of an agency, inclusive of all modes including both fixed and paratransit service.

While there are agencies in the NTD with more service area miles than this figure illustrates, this and all additional figures include only those agencies that responded to the Paratransit Peer Survey.
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The maximum service area miles are 5,325 by the New Jersey Transit Corporation. The minimum service area miles are the San Francisco Municipal Railway at 49 miles, closely followed by Metro Transit System in Wisconsin at 72 miles, and New Orleans Regional Transit Authority at 75. RTC is significantly smaller than the average service area miles at 280 square miles.

While additional metrics can be divided further into modes to emphasize the demand response (“DR”) service, which for many agencies is their paratransit service, the NTD does not differentiate service area for DR. See the following NTD Glossary (2017) definition for Service Area – Demand Response:

*As demand response (DR) does not operate over a fixed route, but rather serves a broad area, the service area cannot be measured by corridors (see Service Area — Bus (MB)). Therefore, the service area for DR is the area encompassing the origin to destination points wherever people can be picked up and dropped off.*
The service area population maximum is New Jersey Transit Corporation at 10.6 million; while the minimum is 256,150 in Wisconsin’s Metro Transit System. RTC falls at the average of approximately 2 million.

Source: National Transit Database Agency Profiles.
PASSENGER MILES TRAVELED

Figure 3: PMT

Source: National Transit Database Agency Profiles.

Passenger Miles Traveled ("PMT") is defined by the NTD Glossary (2017) as

\[ \text{The sum of the distances ridden by each passenger.} \]

In terms of total PMT, the MTA New York City Transit represents an outlier at 12.8 billion PMT, while the nearest runner-up, New Jersey Transit Corporation has a much lower 3.5 billion PMT. The minimum PMT of the responding agencies is Pioneer Valley Transit Authority with 46.9 million PMT. RTC falls below the average and the minimum, coming in at 259.2 million PMT.

Figure 3 illustrates all PMT per agency, without separating modes. However, the NTD provides data for the DR mode, which is defined as

\[ \text{A transit mode comprised of automobiles, vans, or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations.} \]

\[ \text{A demand response (DR) operation is characterized by the following:} \]
Paratransit Peer Review

- The vehicles do not operate over a fixed route or on a fixed schedule except, perhaps, on a temporary basis to satisfy a special need; and
- Typically, the vehicle may be dispatched to pick up several passengers at different pickup points before taking them to their respective destinations and may even be interrupted en route to these destinations to pick up other passengers.

The following types of operations fall under the above definitions provided they be not on a scheduled fixed route basis:

- Many origins—many destinations
- Many origins—one destination
- One origin—many destinations
- One origin—one destination

While the definition of DR does not specify that DR mode is only paratransit, the following definition for ADA Related Unlinked Passenger Trips (“UPT”) provides further clarification in the NTD Glossary (2017):

The number of passengers who board public transportation vehicles for complementary paratransit services (demand response (DR)) associated or attributed to the Americans with Disabilities Act of 1990 (ADA) compliance requirements. The number of ADA unlinked passenger trips (UPT) should be less than or equal to the total number of unlinked passenger trips. These trips are reported only for the DR mode. ADA-related service reported to the National Transit Database (NTD) should not include any categorical service (i.e. services that are not available to the general public such as Medicaid, Meals-On-Wheels, Head Start, sheltered workshops, independent living centers, etc.) Also not included is service funded by the New Freedom program.

The following definition of Complementary Paratransit Services in the NTD Glossary (2017) also adds clarification on the relationship between DR and paratransit service.

Transportation service required by the Americans with Disabilities Act of 1990 (ADA) for individuals with disabilities who are unable to use fixed route transportation systems. This service must be comparable to the level of service provided to individuals without disabilities who use the fixed route system and meet the requirements specified in Sections 37.123-137.133 of Transportation Services for Individuals with Disabilities (Part 37), Code of Federal Regulations, Title 49, Volume 1. The complementary services must be origin-to-destination service (demand response (DR)) or on-call DR service to an accessible fixed route where such service enables the individual to use the fixed route bus (MB) system for his or her trip. Service must be provided in a corridor 3/4 of a mile on either side of the bus routes.
It is essential to note that DR is reported by NTD in two categories: Directly Operated (“DO”) and Purchased Transportation (“PT”) and will be separately reported throughout this analysis and report. See definitions below.

**DO** is defined by the NTD Glossary (2017) as

*Transportation service provided directly by a transit agency, using their employees to supply the necessary labor to operate the revenue vehicles. This includes instances where an agency’s employees provide purchased transportation (PT) services to the agency through a contractual agreement.*

**PT** is defined by the NTD Glossary (2017) as

*Transportation service provided to a public transit agency or governmental unit from a public or private transportation provider based on a written contract. The provider is obligated in advance to operate public transportation services for a public transit agency or governmental unit for a specific monetary consideration, using its own employees to operate revenue vehicles.*

*Purchased transportation (PT) does not include:*

- Franchising
- Licensing operations
- Management services
- Cooperative agreements
- Private conventional bus service

The following figures show the PMT for DR-PT and DR-DO. Note that RTC only provides DR-PT and will therefore be represented only in Figure 4.
Source: National Transit Database “2017 Annual Database Agency Mode Service”.

In comparing Figure 4 to Figure 3, the differences in the data set are that the latter-named figure indicates the PMT of all modes for all responding agencies, while the former-named figure indicates only DR-PT for agencies providing that service. RTC provides DR service only through PT, and is well-above average PMT compared to its peer agencies. This indicates that while in total PMT, RTC is less productive than peer agencies, i.e. producing less, the opposite is seen with DR.

While RTC does not provide DR-DO, the data will be provided for comparison of agencies performing DR in-house, that is, DR-DO.
What becomes evident right away is that agencies providing DR-DO are producing many fewer PMT than agencies providing DR-PT.

To help provide a side-by-side comparison, the following chart compares the average PMT for DR-PT, DR-DO, and RTC.

Source: National Transit Database “2017 Annual Database Agency Mode Service”.
Source: National Transit Database “2017 Annual Database Agency Mode Service”.

Keep in mind that this figure shows only DR PMT, and provides a basis of comparison between the two general methods of providing DR service, that is DR-PT and DR-DO. RTC provides DR-PT only, and is therefore grouped with the overall DR-PT.

When compared to the average agency PMT for DR-PT, RTC produces 63% more PMT than other agencies in DR-PT, and a dramatic 570% more PMT than DR-DO.
The National Transit Database Glossary (2017) defines unlinked passenger trips (“UPT”) as:

*The number of passengers who board public transportation vehicles. Passengers are counted each time they board a vehicle no matter how many vehicles they use to travel from their origin to their destination.*

The UPT metric includes passenger trips by all modes by each agency and represents both fixed and paratransit ridership. UPT will be well-represented throughout this research as a measure of productivity, or volume of service produced by the transit agency. This is one of the most accurate ways to measure commensurability between and among transit agencies.

This is a pattern which we will see repeated throughout the secondary data, and that is the frequent outlier represented by the MTA New York City Transit. For UPT, the MTA New York City Transit is the maximum UPT at 3.6 billion. The closest runner up is Los Angeles County Metropolitan Authority at a distant 433 million. The lowest number of
UPT of any agency responding to the survey is Jacksonville Transportation Authority at 13.3 million. The RTC falls between the minimum and average at 67.3 million.

Because this study is focused on paratransit service, including DR measures are incredibly relevant. While the definition of DR does not explicitly refer to paratransit and other agencies may provide their paratransit services through other modes, DR is seen as a quality estimate of paratransit productivity and costs.

One of the primary research objectives of this study is to identify the method by which other agencies provide paratransit service beyond the ¾ mile ADA mandate. This question is not a simple one to answer with NTD data, but the integration of the NTD data with the survey responses provides us a much more detailed and nuanced picture of agencies providing paratransit service OOSA. OOSA-specific metrics are not available in the NTD databases.

To provide context, the method by which each agency provides DR was analyzed by UPT. This provides a relative measure of how much of each agency’s total service (measured in total UPT, as seen in Figure 7 on page 26) is devoted to DR, which is an apparent proxy for paratransit service, and by which method that DR is provided: DR-PT, DR-DO, or both.

The information in Table 1 is summarized thusly:

- **DR-PT:** 61.5% (n=32) agencies surveyed provide DR-PT, as does RTC
- **DR-DO:** 17.3% (n=9) agencies surveyed provide DR-DO
- **Other modes:** 3.8% (n=2) agencies provide other modes other than DR
- **Discontinued:** 5.6% (n=3) agencies surveyed have reported discontinued DR service

The RTC provides DR service only via DR-PT, and is therefore in the majority of peer agencies in how the DR service is performed. The other interesting thing to note about Table 1 is the low percentage of total UPT which are DR. While the UPT seen in Figure 7 and this table come from somewhat different sources, they are reported from the same common database and should therefore be equivalently accurate. The sources are the NTD Transit Agency Profile 2016, and the NTD “2017 Annual Database Agency Mode Service” database, with the 2016-year values used for this analysis.

Evaluating the table’s columns “% of DR_PT_UPT” and “% of DR_DO_UPT”, we can see about how much of an agency’s UPT is made of DR of either PT or DO service type. What becomes immediately apparent is how small the DR percentage is of the agencies’ total UPT. The highest % of DR for agencies utilizing both DR-PT and DR-DO is 3.3%, for DR-PT is 3.62%, and for DR-DO only is 3.35%, with most agencies providing a far lower percentage of total UPT as DR.
<table>
<thead>
<tr>
<th>Agency</th>
<th>% of DR_PT_UPT</th>
<th>% of DR_DO_UPT</th>
<th>How is the DR service provided?</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIA Metropolitan Transit</td>
<td>1.50%</td>
<td>1.30%</td>
<td>Both, 2.8%</td>
</tr>
<tr>
<td>Kansas City Area Transportation Authority</td>
<td>1.92%</td>
<td>0.76%</td>
<td>Both, 2.68%</td>
</tr>
<tr>
<td>Utah Transit Authority</td>
<td>0.33%</td>
<td>0.53%</td>
<td>Both, 0.86%</td>
</tr>
<tr>
<td>Metro Transit System</td>
<td>1.65%</td>
<td>0.40%</td>
<td>Both, 2.05%</td>
</tr>
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<td>Pace - Suburban Bus Division</td>
<td>3.14%</td>
<td>0.16%</td>
<td>Both, 3.3%</td>
</tr>
<tr>
<td>Transit Authority of River City</td>
<td>2.66%</td>
<td>0.02%</td>
<td>Both, 2.68%</td>
</tr>
<tr>
<td>Central Puget Sound Regional Transit Authority</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Discontinued</td>
</tr>
<tr>
<td>Los Angeles County Metropolitan Transportation Authority dba: Metro</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Discontinued</td>
</tr>
<tr>
<td>Regional Public Transportation Authority, dba: Valley Metro</td>
<td>0.00%</td>
<td>0.00%</td>
<td>Discontinued</td>
</tr>
<tr>
<td>City of Tucson</td>
<td>0.00%</td>
<td>3.35%</td>
<td>DO</td>
</tr>
<tr>
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<td>1.75%</td>
<td>DO</td>
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<td>0.00%</td>
<td>1.29%</td>
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</tr>
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<td>1.15%</td>
<td>DO</td>
</tr>
<tr>
<td>Charlotte Area Transit System</td>
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<td>1.12%</td>
<td>DO</td>
</tr>
<tr>
<td>Hillsborough Area Regional Transit Authority</td>
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<td>1.07%</td>
<td>DO</td>
</tr>
<tr>
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<td>0.71%</td>
<td>DO</td>
</tr>
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<td>DO</td>
</tr>
<tr>
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<td>0.04%</td>
<td>DO</td>
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<td>Fixed route only (rail)</td>
</tr>
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<td>0.00%</td>
<td>Mode MB/RB, no DR</td>
</tr>
<tr>
<td>Orange County Transportation Authority</td>
<td>3.62%</td>
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<td>2.78%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
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<td>0.00%</td>
<td>PT</td>
</tr>
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<td>2.39%</td>
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<td>PT</td>
</tr>
<tr>
<td>Transportation District Commission of Hampton Roads</td>
<td>2.30%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Broward County Transit Division</td>
<td>2.15%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Capital Metropolitan Transportation Authority</td>
<td>2.11%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Central Florida Regional Transportation Authority</td>
<td>2.01%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>San Mateo County Transit District</td>
<td>1.99%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Regional Transportation Commission of Southern Nevada</td>
<td>1.89%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Metropolitan Transit Authority of Harris County, Texas</td>
<td>1.84%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Miami-Dade Transit</td>
<td>1.66%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>City and County of Honolulu Department of Transportation Services</td>
<td>1.51%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Santa Clara Valley Transportation Authority</td>
<td>1.48%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Central Ohio Transit Authority</td>
<td>1.48%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Agency Name</td>
<td>Paratransit %</td>
<td>Non-Compliance %</td>
<td>Mode</td>
</tr>
<tr>
<td>-----------------------------------------------------------------</td>
<td>---------------</td>
<td>------------------</td>
<td>------</td>
</tr>
<tr>
<td>Southwest Ohio Regional Transit Authority</td>
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</tr>
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<td>0.00%</td>
<td>PT</td>
</tr>
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<td>Milwaukee County Transit System</td>
<td>1.11%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>New Orleans Regional Transit Authority</td>
<td>1.10%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>City of Phoenix Public Transit Department DBA Valley Metro</td>
<td>1.09%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Westchester County Bee-Line System</td>
<td>1.07%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Tri-County Metropolitan Transportation District of Oregon</td>
<td>0.91%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>San Diego Metropolitan Transit System</td>
<td>0.68%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>King County Department of Transportation</td>
<td>0.68%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
<tr>
<td>Washington Metropolitan Area Transit Authority</td>
<td>0.57%</td>
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<td>PT</td>
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<tr>
<td>New Jersey Transit Corporation</td>
<td>0.56%</td>
<td>0.00%</td>
<td>PT</td>
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<td>Southeastern Pennsylvania Transportation Authority</td>
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<td>PT</td>
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<tr>
<td>Dallas Area Rapid Transit</td>
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<td>PT</td>
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<td>Metropolitan Atlanta Rapid Transit Authority</td>
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<td>PT</td>
</tr>
<tr>
<td>City of Detroit Department of Transportation</td>
<td>0.04%</td>
<td>0.00%</td>
<td>PT</td>
</tr>
</tbody>
</table>

*Source: National Transit Database “2017 Annual Database Agency Mode Service”.*
Figure 8: DR-PT UPT


This figure mirrors the PMT results, in that in the DR-PT providing agencies, the RTC provides considerably higher than average UPT in total numbers, but not as a % of total UPT, as was described in Table 1.
Figure 9: DR-DO UPT

Source: National Transit Database “2017 Annual Database Agency Mode Service”.
While RTC does not provide DR-DO, this figure immediately shows the considerably lower number of UPT produced by DR-DO.

The next figure will compare the RTC with the average for DR-PT and DR-DO.
Figure 10: Compare average UPT, DR-PT, DR-DO, RTC

Source: National Transit Database “2017 Annual Database Agency Mode Service”.

As was seen in the PMT section, Figure 10 clearly illustrates that all agencies providing DR-PT are providing significantly more UPT than those agencies providing DR-DO, while RTC is producing far more UPT than either group.
The NTD Glossary (2017) defines Vehicle Revenue Miles ("VRM") as

*The miles that vehicles travel while in revenue service. Vehicle revenue miles (VRM) include revenue service.*

Once again, the outlier for VRM is MTA New York City Transit at 494.9 million; with a far distant second by New Jersey Transit Corporation at 164.5 million. The minimum value is RTS Monroe County New York, with 6.6 million VRM. The RTC is between the minimum and average at 26.9 million VRM.
Figure 12: VRM, per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

As seen in previous figures, there is an existing outlier which is MTA New York City Transit at 3.5 billion UPT. This makes comparison of the remaining data difficult, as can be seen in the tight grouping of data at the bottom left hand side of the chart. Therefore, the data will be truncated for the next figure, to provide more detailed analysis for those non-outlying agencies.

The large yellow point shows the RTC in this and all following scatterplot figures.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This figure, Figure 13 shows the same data as Figure 12, at a reduced scale which truncates the aforementioned outlier. We now begin to see how the RTC compares to its peer agencies in terms of VRM per UPT. Including the UPT variable on the y-axis provides a size or volume comparison to help get closer to comparing apples-to-apples.
Figure 14: VRM per UPT, further reduced for trend and detail

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Figure 14 shows the same data, further reduced even compared to Figure 13. This reduction allows the trend of the data to be observed clearly and makes the agency peers to RTC visible. The trend is logical, with the data moving up and to the right in a relatively linear fashion. This indicates a high, positive correlation between UPT and VRM. This is logical and straightforward, as the number of VRM is mathematically related to the number of UPT. That is, as the number of UPT increases, the number of VRM will also increase.
Figure 15: VRM per service area population

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be the service area population. This comparison measure will be used to allow us to visually compare commensurable agencies.

Figure 15 shows VRM but now with service area population on the y-axis. This figure is already truncated to remove outliers so that visual comparison can be made. RTC is visible as the large yellow marker. What is evidently visible is that for agencies with similar populations, the RTC provides the highest number of VRM. This may indicate that a higher proportion of the RTC's population base utilizes public transportation compared to other similarly-populated jurisdictions.
Source: National Transit Database “2017 Annual Database Agency Mode Service”.

While UPT is representative of the productivity of all agencies and is used throughout this analysis and report, it is imperative to respond to the research objective of drilling down into the detail of paratransit provision by peer agencies. To that end, many metrics, including the one here VRM, will also be analyzed for DR metrics, both DR-PT and DR-DO. Because RTC provides DR-PT, RTC will appear only on the DR-PT figures.

This figure reflects what we’ve seen already: RTC is producing more VRM than the average of its peer agencies also providing DR-PT.
Figure 17: Compare average VRM, DR-PT, DR-DO, RTC

Source: National Transit Database “2017 Annual Database Agency Mode Service”.

This figure shows a clearer comparison between the average production of VRM by DR-PT agencies, DR-DO agencies, and RTC. RTC is producing well above the average for other agencies providing DR-PT, and both are far out-producing DR-DO agencies.
The NTD Glossary (2017) defines Vehicle Revenue Hours ("VRH") as

The hours that vehicles travel while in revenue service. Vehicle revenue hours (VRH) include:

- Revenue service
- Layover/recovery time

Once again, MTA New York City Transit represents an outlier for VRH at 37.2 million. The next highest agency is Washington Metropolitan Area Transit Authority with 9 million VRH. The minimum VRH is Tri-County Metropolitan Transportation District of Oregon with less than 300,000 VRH. The RTC falls below the average and minimum, at 2.1 million.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This scatterplot clearly demonstrates the outlier in the top right corner, with all other agencies falling into a group at the bottom left hand corner of the figure. Therefore, the data will be truncated to remove the outlier and provide the ability to see the pattern in the data, allowing us to compare agencies accurately.
Figure 20: VRH per UPT, reduced for detail

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

In Figure 20, the figure was scaled to truncate that outlier so that the detail comparisons can be seen in the data. The large yellow marker is RTC. The pattern is becoming evident in that there is a relatively linear pattern between VRH and UPT, as would be expected. The data will be further reduced to firmly identify the trend and provide a clear comparison between RTC and its peer agencies.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This figure truly gets to the interpretation of the data relationships. The increasing, linear pattern is evident indicating a high correlation between unlinked trip and VRH. Once again, this is expected due to the relationship between the two variables.
Figure 22: Compare average VRH, DR-PT, DR-DO, RTC


The pattern from previous figures continues, with DR-PT agencies producing far more VRH than DR-DO agencies, and RTC outpacing the average performance of other DR-PT agencies.
VEHICLES OPERATING AT MAXIMUM SERVICE

Figure 23: VOMS

The definition of Vehicles Operating in Annual Maximum Service (“VOMS”) is defined by the NTD Glossary (2017) as

*The number of revenue vehicles operated to meet the annual maximum service requirement. This is the revenue vehicle count during the peak season of the year; on the week and day, that maximum service is provided. Vehicles operated in maximum service (VOMS) exclude:*

- **Atypical days**
- **One-time special events**

The maximum VOMS is MTA New York City Transit with just over 11,000 VOMS. The minimum number is the New Orleans Regional Transit Authority, with 164 VOMS. RTC falls below the average, with 612 VOMS.

*Source: National Transit Database Agency Profiles*.
Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This figure emphasizes the outlier on the top right corner, and we can see the data clustered together at the bottom left of the figure. This makes detection of trend and comparison difficult, therefore a figure will be generated with a smaller scale to allow a more accurate interpretation.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

While the positive linear trend becomes visible now that the data are detangled, there is still a thick cluster at the bottom left of the figure. The data will be further truncated to provide the ability to detect and interpret the comparison between the data points.

Source: National Transit Database Agency Profiles.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

At this level of scale, the positive linear trend becomes very clear with some interesting nuances visible. For example, all agencies providing fewer than 20 million UPT have between 200 and 400 VOMS indicating that on average, agencies with this number of UPT produce about 57,143 UPT per VOMS. By comparison, the RTC produces approximately 110,042 UPT per VOMS, indicating a higher efficiency of vehicle use than several other peer agencies. This begs the question, however, about the agency at about 140 million UPT with fewer than 600 VOMS; that is San Francisco Bay Area Rapid Transit District, which provides rail service only.

Source: National Transit Database Agency Profiles.
Figure 27: Compare average VOMS, DR-PT, DR-DO, RTC


RTC has more VOMS than the average of all agencies providing DR-PT, and all DR-PT agencies have many more VOMS than DR-DO.
FUNDING SOURCES FOR OPERATIONS

Figure 28: Funding sources for operations

Source: National Transit Database Agency Profiles.

The NTD Glossary (2017) defines **Fare Revenues** ("Fares") as

> All income directly earned from carrying passengers, paid either in cash or through pre-paid tickets, passes, etc. It includes donations from those passengers who donate money on the vehicle, reduced fares paid by passengers in a user-side subsidy arrangement, or payments made through an agreement to provide fare-free service for a certain group, e.g. payments from a university to provide free service to students. It also includes base fare, zone or distance premiums, express service premiums, extra cost transfers, and special transit fares.

The NTD Glossary (2017) defines **Local Government Funds** ("Local") as

> Financial assistance from local governments (below the state level) to help cover the costs of providing transit services. Does not include funds generated directly by the transit agency.
The NTD Glossary (2017) defines **State Government Funds** ("State") as

*Financial assistance obtained from a state government(s) to assist with paying the costs of providing transit services.*

The NTD Glossary (2017) defines **Federal Government Funds** ("Fed") as

*Financial assistance obtained from the Federal Government to assist with paying the costs of providing transit services.*

The NTD Glossary (2017) defines **Other Funds** ("Other") as

*Any state government or any local government funding sources that are not dedicated to transit at their source and are not included in the budget process of general revenue funds. These funds include:*

- Vehicle licensing and registration fees
- Communications access fees, surcharges, taxes
- Lottery and casino proceeds
- Sale of property and assets
- Other.

This data represents the “Sources of Operating Funds Expended” section in the NTD 2016 Annual Agency Profile.

Once again, with this graph outliers dampen the interpretable image of what is occurring in the full data set. What can be ascertained at this level, however, is that RTC operates at just above the minimum value for fares and state funding, and at practically nothing for local, federal, and other funding for operations.
Figure 29: Total funding for operations per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

The RTC provides far more UPT with far less total operational funding than its peer agencies. RTC is far more efficient producers with their operational funding compared to peer agencies. See the definition of “efficient” for the purposes of this report on page 11.

Evaluating the relationship between service area population and total operational funding is also of interest, as some funding is distributed based on population.
Figure 30: Total operational funding per service area population

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. In this figure, the volume measure used to help compare will be service area population. This comparison measure will allow us to visually compare commensurable agencies.

This scatterplot is very interesting because it shows a non-linear relationship between service area population and total operational funding. That is, as service area population increases, operational funding is not distributed proportionately. There is considerable variation in the data, with a cluster at the bottom left of the figure. What is apparent is that for service area populations similar to that of RTC, there is a large range of operational funding from a low near $100 million, up to a high of $716 million.
FUNDING SOURCES FOR CAPITAL

Figure 31: Capital funding sources

Source: National Transit Database Agency Profiles.

The NTD Glossary (2017) defines Capital as:

Expenses related to the purchase of capital equipment and financing capital projects. Equipment means an article of non-expendable tangible personal property having a useful life of more than one year and an acquisition cost, which equals the lesser of: • The capitalization level established by the government unit for financial statement purposes, or • $5,000. Capital expenses are non-annually recurring and do not include operating expenses (OE) that are eligible to use capital funds, such as preventive maintenance.

This figure represents data published in the NTD 2016 Annual Agency Profile under the Sources of Capital Funds Expended category.

Note: $3.8 million of the RTC state capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit) and $71.3 million of the RTC federal capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit).
While the maximum outliers skew the visual in Figure 31, it is evident that RTC, represented by the large yellow marker, is aligned with the minimum values for fares, local, and other funding for capital expenses. However, RTC is above average for federal funding for capital projects, and par with average for state capital funding.

**Figure 32: Total capital funding sources per UPT**

*Source: National Transit Database Agency Profiles, 2016, linear trend calculated.*

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This scatterplot shows a cluster of data on the bottom left of the figure, with a scattering of data points to the right. While the trend doesn’t appear to be linear, the trend is clearly positive. This linear trend super-imposed on the figure shows that the relationship between UPT and capital funding is strongly and positively correlated.
There are a couple of interesting points in this figure. First, agencies providing about the same number of UPT as RTC do so with a wide range of capital funding. There are 5 transit agencies receiving about the same level of capital funding of RTC and providing considerably more UPT.

**Figure 33: Capital funding per UPT, reduced for detail**

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Figure 33 is truncated to focus on the tighter cluster of data at the bottom left of the figure. It is apparent that many agencies consume far fewer capital funding dollars, but also produce fewer UPT.

Source: National Transit Database Agency Profiles.
OPERATING EXPENSES

This section reports agency-wide operating expenses, as reported on the National Transit Database’s 2016 Transit Agency Profiles.

Figure 34: Operating expenses

Source: National Transit Database Agency Profiles.

This data comes from the Summary of Operating Expenses in the NTD 2016 Annual Agency Profiles for each agency.

The NTD Glossary (2017) defines Operating Expenses (“OE”) as

The expenses associated with the operation of the transit agency, and classified by function or activity, and the goods and services purchased. The basic functions and object classes are defined in Section 5.2 and 6.2 of the Uniform System of Accounts (USOA). These are consumable items with a useful life of less than one year or an acquisition cost, which is less than the capitalization level established by the governmental unit for financial statement purposes.

This is the first category in which the outlier has less variation than the other agencies. The outlier is still visible in the wage category, but far less so in the material, purchased...
transportation and other expenses. For these categories, RTC is near the minimum for wages, material, and other expenses, and at the average for purchased transportation.

Note that purchased transportation, according to the National Transit Database 2017 glossary, is defined as “transportation service provided to a public transit agency from a public or private transportation provider based on a written contract. Purchased transportation does not include franchising, licensing operations, management services, cooperative agreements, or private conventional bus service.”
Figure 35: Total operating expenses

Source: National Transit Database Agency Profiles.

This figure shows that RTC is very close to minimum for total operating expenses, perhaps indicating that there is a very efficient use of operating dollars going toward operating expenses.
Figure 36: Total operating expenses per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This scatterplot shows a clear, positive, linear trend indicating that, as one would expect, as UPT increase, operating expenses increase. The big question is does this happen at the same rate amongst peer agencies? To find out, the data will be truncated to focus on the tight data cluster at the bottom left of the figure.
Figure 37: Total operating expenses per UPT, reduced for detail

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used here to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This incredible graph is an illustration of the cost efficiency at which RTC produces UPT. No other agencies are producing the same or more UPT at the same operating expense as the RTC.
Figure 38: DR-PT total operational expenses


While RTC is below average for operating expenses for total UPT, once we focus only on DR-PT, it becomes evident that RTC incurs above-average operating expenses for DR-PT only.

DR-DO isn’t visualized as a separate min-max-average graph because the scale is dramatically different and makes comparison difficult in separate graphs. The maximum operating expense for DR-DO is $25 million, and the average is just over $9 million showing a large chasm between the operating expenses of DR-PT and DR-DO. To illustrate that chasm, the following figure provides a comparison of the averages alongside the amount of operating expenses for RTC.
Figure 39: Compare average total operations expenses, DR-PT, DR-DO, RTC


This figure continues the pattern of RTC incurring higher operations expenses than both the average of other agencies providing DR-PT, and all DR-PT incurring dramatically more operations expenses in dollars than DR-DO.
Figure 40: DR total operating expense per DR UPT

Source: National Transit Database “2017 Annual Database Agency Mode Service”.

This figure illustrates that though RTC incurs higher than average operational expenses, RTC falls around the middle of agencies incurring similar levels of operating expenses in terms of what those operating expenses is then producing in terms of UPT. RTC’s operating expense as reported by the NTD for 2016 is just over $48 million. At around $48 million in operating expense, there are roughly 3 agencies producing fewer UPT with the same money, and about 3 agencies producing more UPT than RTC with the same money. This indicates that mathematically, of agencies incurring about the same amount of DR operating expense, RTC falls into the average of efficiency in converting those dollars into DR UPT.
OPERATING EXPENSES FOR VEHICLE OPERATIONS

While this number was not reported on the NTD’s 2016 Top 50 Agencies profiles, it was provided in the time series data available for download. Because this is such an essential piece of information when selecting among alternatives, the information is provided here.

**Figure 41: DR-PT operational expense for vehicle operations**


The NTD Glossary (2017) defines Vehicle Operations (“VO”) as

*All activities associated with vehicle operations, including:*

- Transportation administration and support
- Revenue vehicle movement control
- Scheduling of transportation operations
- Revenue vehicle operation
- Ticketing and fare collection
- System security
Looking at DR-PT operational expenses only, per vehicle operations for DR-PT only, it is seen that RTC incurs above-average operational expenses for vehicle operations compared to agency peers providing DR-PT.
Figure 42: Compare average operations expenses for vehicle operations, DR-PT, DR-DO, RTC


RTC incurs significantly more operating expense for DR vehicle operations than the average of peer agencies performing DR-PT, and the average for all agencies performing DR-PT is significantly higher than those agencies performing DR-DO.
Figure 43: DR operating expense for vehicle operation, per DR UPT

Source: National Transit Database “2017 Annual Database Agency Mode Service”.

About 5 peer agencies are producing more DR UPT with about the same amount of operating expense for vehicle operations, while about 2 agencies are producing fewer DR UPT with approximately the same level of operating expense incurred per vehicle operation. Therefore, while RTC is incurring more operating expense for vehicle operations than other agencies, RTC is not producing more DR UPT per operating expense dollar than peer agencies receiving similar operating expense dollars.
Not only are vehicle operation costs relevant to the discussion of implementing new or additional services, but the cost of administering such programs is also particularly relevant. As was seen in the previous section, this data is not reported on the agency profiles, but is available from download as time series data from the NTD.

**Figure 44: DR-PT operational expenses for general administration**


The NTD Glossary (2017) defines General Administration (“GA”) as

All activities associated with the general administration of the transit agency. Sub-functions under General Administration are:

- Transit service development
- Injuries and damages
- Safety
- Personnel administration
- Legal services
- Insurance
Paratransit Peer Review

- Data processing
- Finance and accounting
- Purchasing and stores
- Engineering
- Real estate management
- Office management and services
- Customer services
- Promotion
- Market research
- Planning

While GA represents nearly a catch-all category, the information can illuminate any differences in operating expenses for performing DR-DO and DR-PT for the GA function.
Figure 45: Compare average operations expenses for general administration, DR-PT, DR-DO, RTC


This figure shows that RTC incurs lower operations expenses for GA than the average of other agencies providing DR-PT, while both incur far higher operating expenses for GA than DR-DO agencies.
Figure 46: DR operating expense for general administration per DR UPT

Source: National Transit Database “2017 Annual Database Agency Mode Service”.

While the previous figure provided a comparison of averages, this figure shows the DR operating expense for general administration and their concurrent level of production, DR UPT. Four agencies provide far more DR UPT with the equal or less operating expense for GA as RTC. However, there are five agencies producing fewer DR UPT than RTC with the same or more operating expense for GA. Given the range of data, RTC is about average in DR operating expenses for GA per DR UPT.
OPERATING EXPENSE PER VEHICLE REVENUE HOUR

This section reports operating expense per vehicle revenue hour as published by the National Transit Database in the 2016 Transit Agency Profile and represents bus modality only, to provide for a clearer comparison between RTC and peer agencies on their operating expenses per vehicle.

**Figure 47: Operating expense per vehicle revenue hour**

Source: National Transit Database Agency Profiles.

The maximum operating expense per vehicle revenue hour was $304.68, which was incurred predictably by San Francisco Bay Area Rapid Transit due to their service provision via train. The minimum operating expense per vehicle revenue hour was $82.70 by Central Florida Regional Transportation Authority. RTC is near the minimum at $101.56.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This figure provides operating expense per vehicle revenue hour per UPT, inclusive of fixed and paratransit trips. This provides a more applicable comparison than Figure 47 in that we can see what level of production, i.e. UPT, each agency provides for a given operating expense per vehicle revenue hour. Two outliers prevent closer study. These outliers are one outlier for operating expense per VRH, which is San Francisco Bay Area Rapid Transit District. This is logical given that that agency provides only rail service. The outlier for UPT is MTA New York City Transit. To provide a better view to comparison, the outliers will be truncated to eliminate the outliers and provide a closer study of the agency differences.

Source: National Transit Database Agency Profiles.
Figure 49: Operating expense per VRH per UPT, reduced for detail

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

This figure helps focus attention on the agencies closest to RTC in terms of UPT and operating expense per vehicle revenue hour. It can be seen that only one agency provides more UPT at a lower operating expense than RTC: San Diego Metropolitan Transit System, which provides 92 million UPT for $85.33 operating expense per vehicle revenue hour. This again emphasizes that RTC is a highly efficient producer of UPT for a low operating cost.

Source: National Transit Database Agency Profiles.
Figure 50: Compare average operating expense per VRH, DR-PT, DR-DO, RTC


This figure allows the comparison of RTC and the average of both DR-PT agencies, and DR-DO agencies. Recall that DR-PT indicates demand response service, which is congruent to paratransit service can be provided in-house, which is directly operated (“DO”), or can be contracted out or purchased, which is purchased transportation (“PT”). The average operating expense per VRH for RTC’s peer agencies is lower than RTC’s operating expense per VRH, while both are dramatically lower than the operating expense per VRH for DR-DO.
OPERATING EXPENSE PER VEHICLE REVENUE MILES

This section reports operating expense per vehicle revenue mile as published by the National Transit Database in the 2016 Transit Agency Profile and represents bus modality only, to provide for a clearer comparison between RTC and peer agencies on their operating expenses per vehicle.

Figure 51: Operating expense per vehicle revenue mile per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

The dramatic cluster of data points at the bottom left side of the figure provides little ability to tease apart a trend or pattern in the data, or to determine how RTC compares to its peer agencies. Therefore, the data will be truncated to remove the outlier agencies and allow visualization of the data at a more detailed level.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

With the data truncated, it becomes evident that agencies within the same range of operating expense per vehicle revenue mile as RTC in large part produce fewer UPT than RTC. About 17 agencies incur operating expenses per vehicle revenue mile between $8 and $10 and produce fewer UPT than RTC. Only 4 agencies with the same operating expense range as RTC produce more UPT. Notably, one agency incurs lower operating expense per vehicle revenue mile than RTC while producing more UPT: San Diego Metropolitan Transit System, which produces 92.4 million UPT at $7.83 operating expense per vehicle revenue mile.

Source: National Transit Database Agency Profiles.
Figure 53: Compare average operating expense per VRM, DR-PT, DR-DO, RTC


This figure shows the RTC compared to its peer agency average for DR-PT, and then separately compared to DR-DO. RTC incurs less than peer agency average operating expense for VRM, both of which incur far less operating expense per VRM than DR-DO agencies.
This section reports operating expense per passenger mile as published by the National Transit Database in the 2016 Transit Agency Profile and represents bus modality only, to provide for a clearer comparison between RTC and peer agencies on their operating expenses per vehicle.

**Figure 54: Operating expenses per passenger mile traveled**

Similar to operating expense per vehicle revenue mile, operating expenses per passenger mile illustrates the low relative operating expense of RTC, shown on the figures as a large yellow marker. RTC’s operating expense per passenger mile is considerably below the average of $1.09. The maximum value is San Mateo County Traffic District at $1.83, and the minimum is San Francisco Bay Area Rapid Transit at $0.34, again due to their service provision as train only.

*Source: National Transit Database Agency Profiles.*
Figure 55: Operating expense per passenger mile per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Once again, we see the outlier in UPT of MTA New York City Transit. Including this point on the graph prevents a clear view of the relationship between UPT and operating expense per passenger mile. Therefore, the figure’s scale will be reduced.
Figure 56: Operating expense per passenger mile per UPT, reduced for detail

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

There is not a strong linear relationship between UPT and operating expense per passenger mile. What is immediately evident, however, is that the RTC has nearly the lowest operating expense per passenger mile of any of the peer agencies. The majority of responding agencies provide fewer UPT than RTC at a higher operating expense per passenger mile.
Figure 57: DR-PT operating expense per PMT


This figure shows DR mode, only, in both operating expense and PMT, illustrating that RTC incurs less than average operating expense per DR PMT than other DR-PT agencies. The following figure includes DR-DO for comparison.
Figure 58: Compare average operating expense per PMT, DR-PT, DR-DO, RTC


This figure shows that RTC incurs less than average operating expense per PMT for agencies providing DR-PT, and all DR-PT incur far less operating expense per PMT than DR-DO agencies.
OPERATING EXPENSE PER UNLINKED PASSENGER TRIP

This section reports operating expense per UPT as published by the National Transit Database in the 2016 Transit Agency Profile and represents bus modality only, to provide for a clearer comparison between RTC and peer agencies on their operating expenses per vehicle.

Figure 59: Operating expense per unlinked trip, per UPT

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

While the title of this figure seems redundant, it reveals more information with which to compare RTC to its peer agencies than the operating expenses themselves. Once again, the outlier MTA New York City Transit with its high number of UPT produced, does not allow a clear interpretation of the other data found in the figure. Therefore, the data will
be truncated to remove the outlier and reduce the scale so that the pattern and comparison become evident.
Figure 60: Operating expense per unlinked trip, per unlinked trip reduced for detail

Source: National Transit Database Agency Profiles.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

RTC has the lowest operating expense per unlinked trip of any agency surveyed.

The following figure will illustrate DR only, comparing average operating expense per UPT for DR-DO, DR-PT, and RTC.
Figure 61: Compare average operating expense per UPT, DR-PT, DR-DO, RTC


Similar to previous figures, this figure shows RTC incurs lower operating expense per DR UPT than the peer agency average for DR-PT, and all DR-PT incur far lower operating cost per UPT than DR-DO agencies.
Figure 62: DR operating expense per UPT, per DR UPT

Source: National Transit Database “2017 Annual Database Agency Mode Service”. This figure shows that four DR-PT agencies are incurring a lower operating expense per UPT while producing more DR UPT. However, there are many agencies incurring higher operating expense per DR UPT and producing the same or fewer DR UPT than RTC. The RTCs performance among peers in operating expense per UPT is average.
FARE WITHIN THE ADA MANDATE

Figure 63: Fare within the ADA mandate

Source: Paratransit Peer Review Survey Response.

While this study’s purpose is primarily to evaluate peer agency’s performance of paratransit service outside the ADA mandate of ¾ miles from fixed route, some questions were also asked to identify some characteristics of paratransit within the ADA mandated distance. Most responses to the question regarding the passenger fare within the ADA mandate responded with a range. That range was divided into the minimum fare and the maximum fare separately, to provide additional information. In both the minimum and maximum categories, RTC charges below average fares for paratransit service within the ADA mandate.
Figure 64: Fare within the ADA mandate MINIMUM per UPT

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Pairing fares within the ADA mandate minimum with UPT in a scatterplot allows a comparison and detection of mathematical relationship between the two variables. It appears evident right away that there is no mathematical relationship between the two: no clear linear relationship or positive/ negative relationship. Removing the outlier may help make this analysis more evident. Therefore, the outlier will be truncated and the data re-visualized.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Once the outlier is truncated, there is visual confirmation of no existence of a linear relationship between the two. That is, increasing or decreasing levels of productivity are not related to the fare minimum charged within the ADA mandate.

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

A similar pattern is seen when evaluating the maximum fare within the ADA mandate. There is no correlation between fare maximum and productivity measured in UPT. Outliers will be truncated and the data re-visualized in the following figure.

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.
Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Once again, there is no mathematical relationship between the fare maximum within the ADA mandate and productivity as measured by UPT.

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.
Figure 68: DR-PT total fares collected


For DR fares, RTC collects just above the DR-PT agency average for total fares collected.
Figure 69: Compare average fares collected, DR-PT, DR-DO, RTC


This figure shows that RTC collects more DR fare dollars than the average of all peer agencies providing DR-PT, while all DR-PT collect more DR fare dollars than agencies providing DR-DO.
COST STRUCTURE: PARATRANSPORT

BUDGET

Figure 70: Paratransit budget

Source: Paratransit Peer Review Survey Response.

This figure shows the paratransit budget inclusive of any paratransit outside the ADA-mandated ¾ mile distance (OOSA). Few agencies separate their paratransit budget from their OOSA budget, so this figure is in part indicative of the ratio of budgets for OOSA as well. Once again, the outlier is MTA New York City Transit with a paratransit budget of over $474 million. The minimum stated paratransit budget was Hillsborough Area Regional Transit Authority in Florida, of just over $6 million. RTC’s current paratransit budget is above average among the responding peer agencies.

Comparing paratransit budgets dollar-for-dollar is less helpful than comparing by production. Therefore, the next figure will compare paratransit budgets alongside UPT to provide an apples-to-apples comparison.
Figure 71: Paratransit budget per UPT

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

The presence of the outlier prevents a clear interpretation of the data. Therefore, the outlier will be removed and figure recreated to provide a more clear, interpretable figure.
Figure 72: Paratransit budget per UPT, reduced for detail

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

What becomes evident immediately is that the RTC paratransit budget is significantly higher than other agencies at any level of production. A total of 10 agencies have lower paratransit budgets and are producing more UPT than the RTC.
Figure 73: Paratransit budget per service area population, reduced for detail

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be service area population. This comparison measure will be used to allow us to visually compare commensurable agencies.

Evaluating paratransit budget per service area population shows a similar trend. The RTC paratransit budget is higher than peer agencies with a similar service area population, of approximately 2 million.
Two agencies responded that 100% of their total budget is paid for paratransit services. While these are definitely outliers, it is also possible they may be errors. The two agencies reporting 100% are Los Angeles County Metropolitan Transportation Authority, DBA Metro; and Connecticut Department of Transportation CTTRANSIT Hartford Division. The next highest percent is Pace, Suburban Bus Division at 42%. The lowest reported percent budget represented by paratransit service is 1% reported by both Westchester County Bee-Line System and San Francisco Municipal Railway. RTC expends 25% of its total budget on paratransit, therefore significantly higher than the average of 17%.

Source: Paratransit Peer Review Survey Response.
Figure 75: Percent of total budget devoted to paratransit services, per UPT

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Using the scatterplot with UPT on the y-axis, the outliers become visually apparent. MTA New York City Transit is an outlier with 3.5 billion UPT and only 4% of total budget applied to paratransit, while two agencies report 100% budget devoted to paratransit as described below Figure 74. To identify the data patterns, the outliers will be truncated and the data visualized in a reduced figure.
Figure 76: Percent of budget for paratransit per UPT, reduced for detail

Source: National Transit Database Agency Profiles Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

In this figure, the pattern and trend become evident. There is no linear trend, that is, there is no correlation between percent of total budget devoted to paratransit and UPT. There is no mathematical relationship between the percent expenditure on paratransit and overall agency productivity as measured in UPT.

41 total agencies answered this question. RTC has a higher percent paratransit budget than 85% of agencies which responded to this question, two of which are outliers at 100%.
The maximum value of the cost to the agency per paratransit ride within the ¾ ADA mandated service area is MTA New York City Transit at $77.45. The minimum cost to the agency is $21.81, incurred by the Utah Transit Authority. RTC falls just below the average cost to agency for paratransit service within the ADA mandate, at $32.

Source: Paratransit Peer Review Survey Response.
Figure 78: Cost to the agency to provide paratransit within the ADA mandate per UPT

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

Providing the scatterplot of cost to the agency by UPT provides a productivity comparison of agencies. That is, at different levels of cost to the agency to provide paratransit service within the agency, are there regularly varying productivity levels? There is no linear relationship between the two measures, indicating that no, as cost to the agency changes, there are no regular changes to UPT. Simply put, the cost of providing paratransit within the mandate is unrelated to the productivity of the agency. Once again, we see the outlier on the top right of the figure. Therefore, the outlier is truncated and the data re-visualized. See the following figure.
Figure 79: Cost to the agency to provide paratransit within the ADA mandate per UPT, reduced for detail

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

Due to the significant variations in the data set, identifying truly comparable peer agencies becomes challenging. To assist in the interpretation of these numbers, a consistent volume measure is used to compare similar agencies. The volume measure used to help compare will be number of UPT, both fixed and paratransit, as a measure of production volume, or productivity. This comparison measure will be used to allow us to visually compare commensurable agencies.

The data points fall within a narrow band, indicating that there is a small range of cost to the agency for providing paratransit within the ADA mandate, ranging from $20 to $50, essentially. This is unrelated to the productivity of the agency, as measured by UPT. RTC falls nearly center of the data points indicating that its cost is close to average.
FUNDING SOURCES: TRANSIT

Figure 80: Funding sources for transit by response frequency

Source: Paratransit Peer Review Survey Response.

Respondents were asked to describe the funding sources used for both fixed and paratransit services.

Figure 80 shows the percent of all mentions of that particular source. For example, federal funds were mentioned as approximately 15% of all responses to this question. Note that while some funding sources may fold into one another, such as 5310, 5307, and FTA as a part of federal funding. However, the figure maintains the integrity of the data by representing the responses of the respondents.

Equal to federal funds is sales tax, one of RTC’s only funding sources for operations. Because sales tax is such a significant portion of RTC’s total funding, more detail is presented.
Figure 81: Sales tax for transit

Source: Annual financial statements of identified agencies.

The sales tax data was drawn from the annual financial statements of transit agencies. Each color band in each column represents a separate measure or proposition of which a portion is devoted to transit. For example, King County has one measure providing 0.9% sales tax for transit, and a second providing 1.0% sales tax for transit. The total tax rate for transit in King County is therefore 1.9%.

Simply viewing this data as bars, it’s difficult to determine how RTC compares to peer agencies. Therefore, the following figure displays a min-max-average graph for comparison.
Figure 82: Sales tax for transit funding

Source: Annual financial statements of identified agencies.

The maximum total sales tax rate is 1.9% in King County, and the minimum is 0.125% in Orange County. RTC is well-below average sales tax devoted to transit, at 0.375%.

Fares are listed third in frequency for funding transit. Fares were previously addressed in the Fare within the ADA mandate section on page 90.
RESULTS: OOSA VERSUS NON-OOSA

The survey asked if agencies provided paratransit service beyond the ADA mandate of ¾ miles from fixed route service, also called outside the service area ("OOSA"). 41 respondents answered the question. Of those 41, 18 (44%) provide OOSA while 23 (56%) do not provide OOSA. While all initial figures will show the agency-wide numbers inclusive of all modes including DR, the data will be further divided and illustrated by the following groups: DR-PT and DR-DO.

The following sets of figures describe the differences between agencies providing OOSA and those agencies not providing OOSA. Each figure will also include the RTC figure for comparison.

Several of the figures are based on data from NTD while others are based on the paratransit peer review survey. Note will be made regarding which data source the figures are based upon.

SERVICE AREA MILES

Figure 83: Service area miles OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.
Paratransit Peer Review

Note that this figure is based upon NTD data, as are further figures until notice is provided.

Agencies providing OOSA are somewhat smaller in average service area miles than agencies not providing OOSA. The RTC’s service area is significantly less than both OOSA and non-OOSA agencies.
SERVICE AREA POPULATION

Figure 84: Service area population OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

Agencies providing OOSA tend to have higher average service area populations than non-OOSA agencies. RTC’s service area population is significantly lower than either OOSA or non-OOSA agencies’ average service area population.
Figure 85: PMT OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

Agencies not providing OOSA tend to provide many more PMT than agencies providing OOSA. Conversely, agencies providing paratransit service OOSA are far less productive in overall PMT, which includes both fixed and paratransit service.

RTC has fewer PMT than the average of either OOSA agencies or non-OOSA agencies. RTC has a significantly lower number of PMT than either the non-OOSA or OOSA agencies. This relationship is logical given the RTC’s smaller service area and the smaller population in the two previous figures.
This figure begins to pull together both the NTD data and the Paratransit Peer Review Survey responses. This data was separated into those agencies responding yes or no to the question: Does your agency provide paratransit service outside the ADA-mandated ¾ mile boundary? This figure focuses solely on demand response (DR) data.

This figure tells us first that DR-PT agencies provide more DR PMT on average than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, provide more DR PMT than the average for both agencies providing service OOSA and agencies not providing service OOSA. Agencies not providing paratransit OOSA, provide significantly more DR PMT on average than agencies providing paratransit OOSA.

Put simply, agencies providing paratransit OOSA are less productive on average for all modes as reported in PMT when operating DR-PT, but are move productive in PMT than agencies not providing paratransit OOSA when operating DR-DO, but at a much lower scale of production than DR-PT.
Agencies not providing OOSA provide many more UPT (including both fixed and paratransit) than either OOSA agencies or RTC. Conversely, agencies providing paratransit service OOSA are far less productive than agencies not providing service OOSA, for UPT.

RTC has a significantly lower number of UPT than either the non-OOSA or OOSA agencies. This relationship is logical given the RTC’s smaller service area and the smaller population in the two previous figures.

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.
Figure 88: UPT, OOSA and no-OOSA agencies, DR-PT, D-DO, RTC


This data was separated into those agencies responding yes or no to the question: Does your agency provide paratransit service outside the ADA-mandated 3/4 mile boundary? This figure focuses solely on demand response (DR) data.

This figure tells us first that DR-PT agencies provide more DR UPT on average than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, provide more DR UPT than the average for both agencies providing service OOSA and agencies not providing service OOSA. Agencies not providing paratransit OOSA, provide significantly more DR UPT on average than agencies providing paratransit OOSA.
Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

Agencies not providing OOSA provide many more VRM (both fixed and paratransit) on average than either OOSA agencies or the RTC. Conversely, agencies providing paratransit services OOSA are less productive in VRM than agencies not providing paratransit services OOSA.

RTC has a significantly lower number of VRM than either the non-OOSA or OOSA agencies. This relationship is logical given the RTC’s smaller service area and the smaller population in the two previous figures.
Figure 90: VRM, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC


This data was separated into those agencies responding yes or no to the question: Does your agency provide paratransit service outside the ADA-mandated 3/4 mile boundary? This figure focuses solely on demand response (DR) data.

This figure tells us first that DR-PT agencies provide more DR VRM on average than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, provide more DR VRM than the average for both agencies providing service OOSA and agencies not providing service OOSA. Agencies not providing paratransit OOSA, provide significantly more DR VRM on average than agencies providing paratransit OOSA.
Similarly, agencies not providing OOSA provide many more VRH (both fixed and paratransit) than either those that provide OOSA or the RTC.

RTC has a significantly lower number of VRH than either the non-OOSA or OOSA agencies. This relationship is logical given the RTC’s smaller service area and the smaller population.

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.
Paratransit Peer Review

Figure 92: VRH, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC


This data was separated into those agencies responding yes or no to the question: Does your agency provide paratransit service outside the ADA-mandated ¾ mile boundary? There were 41 total responses (9 agencies left this question blank). This figure focuses solely on demand response (DR) data.

This figure tells us first that DR-PT agencies provide more DR VRH on average than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, provide more DR VRH than the average for both agencies providing service OOSA and agencies not providing service OOSA. Agencies not providing paratransit OOSA, provide significantly more DR VRH on average than agencies providing paratransit OOSA.
Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

Agencies not providing OOSA have more VOMS (both fixed and paratransit) than either those that provide OOSA or the RTC. Conversely, agencies providing paratransit service OOSA have far fewer VOMS than agencies not providing paratransit service OOSA.

RTC has a significantly lower number of VOMS than either the non-OOSA or OOSA agencies. This relationship is logical given the RTC’s smaller service area and the smaller population.
Figure 94: VOMS OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC


This figure tells us first that DR-PT agencies have on average, more VOMS than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has more VOMS than the average for agencies providing paratransit OOSA, but slightly fewer than the average VOMS for agencies not providing paratransit OOSA.
This figure is one of the most interesting. This data is from the full integrated set including both data from the NTD database and from the survey response set. This data and figure represent the sources of funds used for operations in the full NTD data, which is inclusive of both fixed and paratransit service.

The first set of columns are operating funds originating from fares. Agencies not providing OOSA receive dramatically higher fares for funding operations than either OOSA or RTC.

Local dollars funding operations are roughly the same, an average of $200 million, for both OOSA and non-OOSA agencies, while entirely absent from RTC.

State funding also has a different and interesting pattern with non-OOSA agencies receiving dramatically higher funding from the state, while OOSA agencies receive very little. RTC receives $116 million, or over three times the OOSA average in state funding, $34.6 million.
Federal funding paints a very different picture for operational funding, but reflecting the trend of non-OOSA agencies receiving a much higher amount than OOSA agencies, and both considerably higher than what is received by RTC.

Finally, other operating funds account for a small but existing portion of both non-OOSA and OOSA funding at a roughly 2:1 ratio. RTC has no operational funding in the ‘other’ category.
FUNDING SOURCES FOR CAPITAL

Figure 96: Funding sources for transit capital OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

This data and figure represent the sources of funds used for capital in the full NTD data, which is inclusive of both fixed and paratransit service.

Based on the figure, fares as funding sources to cover capital expenses are much higher for non-OOSA agencies, nearly absent in OOSA agencies, and entirely absent in RTC. Local dollars funding transit capital are interestingly much, much higher for OOSA agencies than for non-OOSA agencies, and still absent for RTC. State dollars for funding transit capital are closer to one another, with the non-OOSA average at about $32 million, OOSA average at $32.8 million, and RTC at $24.9 million.

Note: $3.8 million of the RTC state capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit).

Federal funding for transit capital expenses shows where most of RTC’s capital funding originates. Non-OOSA agencies receive marginally higher federal funding for transit capital, while OOSA agencies receive 44% less than non-OOSA, and 41% less than RTC.
Note: $71.3 million of the RTC federal capital funding was for a fixed guideway related to the I-11 highway expansion (not related to public transit).

The “Other” category shows a comparatively small amount of funding for transit capital for non-OOSA, less for OOSA agencies, and none for RTC.
OPERATING EXPENSES

Figure 97: Operating expenses for transit OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

This data and figure represent operating expenses incurred for both transit and paratransit operations from the full NTD data. Wages as operating expenses are dramatically higher on average for non-OOSA than OOSA. Both are also much higher than RTC. Material expenses are significantly lower in RTC than either OOSA or non-OOSA agencies.

Purchased transportation for transit is about $135.6 million for RTC, and approximately $54 million for both OOSA and non-OOSA agencies. This indicates that RTC purchases about 3 times more dollars’ worth of purchased transportation than either OOSA or non-OOSA agencies.

Other operating expenses for transit are around $100 million for non-OOSA, $55 million for OOSA, and $33 million for RTC.
Figure 105 reports operating expense per passenger mile and per UPT as published by the National Transit Database in the 2016 Transit Agency Profile and represents bus modality only, to provide for a clearer comparison between RTC and peer agencies on their operating expenses per vehicle.

**Figure 98: Total operating expenses OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC**

![Operating Expenses Graph]


This figure shows that DR-PT agencies have on average, higher DR operating expense than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has higher total DR operating expenses than the average for agencies providing paratransit OOSA, but somewhat less than the average total DR operating expenses for agencies not providing paratransit OOSA.
OPERATING EXPENSES FOR VEHICLE OPERATIONS

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

Figure 99: Operating expense for vehicle operations, OOSA and no-OOSA, DR-PT, DR-DO, RTC


This figure shows that DR-PT agencies have on average, higher operating expense than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has higher total operating expenses than the average for agencies providing paratransit OOSA, and about the same as the average operating expense for VO for agencies not providing paratransit OOSA.
The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 100: Operating expense for general administration, OOSA and no-OOSA, DR-PT, DR-DO, RTC**

This figure shows that DR-PT agencies have on average, higher DR operating expense for GA than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has lower total DR operating expenses for GA than the average for agencies providing paratransit OOSA, and far lower than the average DR operating expense for GA for agencies not providing paratransit OOSA.

OPERATING EXPENSE PER VEHICLE REVENUE MILE

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 101: Operating expense per VRM, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC**

This figure shows that DR-PT agencies have on average, about the same DR operating expense per DR VRM than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has lower total DR operating expenses per VRM than both the average for agencies providing paratransit OOSA and agencies not providing paratransit OOSA.

OPERATING EXPENSE PER VEHICLE REVENUE HOUR

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 102: Operating expense per VRH, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC**


This figure shows that DR-PT agencies have on average, about the same DR operating expense per DR VRH than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has slightly higher total DR operating expenses per VRH than both the average for agencies providing paratransit OOSA and agencies not providing paratransit OOSA.
OPERATING EXPENSE PER UNLINKED PASSENGER TRIP

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 103:** Operating expense per UPT, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC


This figure shows that DR-PT agencies have on average, somewhat higher DR operating expense per DR UPT than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, has slightly lower total DR operating expenses per UPT than agencies not providing paratransit OOSA, and about the same DR operating expense per UPT as agencies providing paratransit OOSA.
OPERATING EXPENSE PER PASSENGER MILE TRAVELED

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 104: Operating expense per PMT, OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC**

Figure 105: Operating expense per PMT and UPT OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

This figure contains data on both fixed and paratransit operating expenses. The most interesting aspect of this figure is that OOSA agencies have, on average, a higher operating expense per unlinked trip than non-OOSA agencies, and about double the operating expense per unlinked trip of the RTC.

This indicates that agencies providing paratransit service OOSA are incurring higher operating expense per UPT than agencies not providing paratransit service OOSA, when evaluating all UPT of all modes.
**FARE WITHIN THE ADA MANDATE**

**Figure 106: Fare within the ADA mandate OOSA, non-OOSA, RTC**

This figure shows that the fare minimum and maximum within the ADA mandate 3/4 mile band by non-OOSA agencies, OOSA agencies, and RTC. On average, within ADA-mandate fares were highest in agencies with no OOSA provided, lower in agencies providing OOSA, and lowest in RTC.

Evaluating the amount of fares collected for DR is relevant, as well, to provide input for decision-making.

*Source: Paratransit Peer Review Survey Response.*

Note: this figure marks the beginning of paratransit peer review survey data as the data source for the figures.
Figure 107: Fares collected OOSA and no-OOSA agencies, DR-PT, DR-DO, RTC


This figure shows that DR-PT agencies collect on average, significantly higher DR fares than DR-DO agencies. Next, it is evident that RTC, among agencies providing DR-PT, collects less DR fares than the average of agencies not providing paratransit service OOSA, and far more DR fares than agencies providing paratransit service OOSA.
Source: Paratransit Peer Review Survey Response, average calculated.

This figure shows a small but noticeable difference between the costs to the agency for non-OOSA, OOSA and RTC. The average cost to the agency to provide paratransit inside the ADA mandate is $38, while the average cost to OOSA agencies is about $40, and RTC’s cost is $32.
Figure 109: Percent of total budget to provide paratransit service within the mandate, OOSA, non-OOSA, RTC

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response, average calculated.

This figure is very telling in that RTC spends a considerably higher percentage (25%) of its transit budget on paratransit service within the mandate. This is 39% more than OOSA agencies spend on average (18%), and 56% more than non-OOSA agencies (16%), in percentage only, not in total dollars.
SERVICE PROVISION OUTSIDE THE SERVICE AREA

One of the most important goals of this survey is to determine how the service is provided OOSA by transit agencies. While a lot of great information was collected through the survey, secondary research, follow-up interviews, and emails, there were rarely enough responses to create a meaningful figure. Therefore, this section shall be written in narrative format.

Recall that 18 of 41 respondents, or about 43.9% replied that they do provide paratransit service outside the service area. The agencies provide these services in several different methods. These fall into a few categories: providing connections into the ADA-mandate paratransit or fixed route area or creating partnerships with non-profit organizations, transportation network companies (“TNC”) or taxi companies.

The 4 transit agencies responding that they partner with nonprofit organizations to provide OOSA provided the following information on how these partnerships operate:

1. Provide transportation service to day programs during peak hours
2. Senior mobility program operated by 31 municipalities and 4 non-profit organizations, to provide seniors over 60 years old with transportation that could be considered OOSA
3. Contracts with several local social service agencies to provide transportation for their own paratransit-eligible clients
4. DAR senior program; conducted by towns’ senior centers; transit agency reimburses the non-profit operators

While few transit agencies responded that they currently have a partnership with TNCs or taxis, several additional agencies are planning or currently piloting a partnership. TNC pilots and taxi partnerships are finding lower per ride costs than the comparable paratransit ride. Many TNC pilots and taxi partnerships include same-day service, often with an advance call window (2 hours in advance, primarily).

Most agencies participating in taxi or TNC pilots use technology to assist the customer service process and contractors who assist or perform the transportation itself, such as UZURV, Lyft, and Uber.

Nearly all agencies utilizing these types of partnerships create caps or constraints on the per passenger number of TNC or taxi rides. These caps vary by community, trip purpose, budget constraints, and restrictions created by the taxi companies themselves. Some agencies provide hard caps, such as 2 rides per day (Broward County), and others provide proportional caps such as the passenger’s ability to use the TNC or taxi option in proportion to their historic paratransit usage. Some agencies place schedule constraints on the OOSA service to be either complementary to within ADA-mandate paratransit schedules, or supplementary outside ADA-mandate paratransit schedules. Taxi companies have also placed caps on the number of wheelchair accessible vehicles made available by the taxi partners, some taxi partners provide service only after 6:00 pm, and some taxi partners do not provide same-day service.

These caps, schedules, and constraints are necessary to help level the ridership and keep the service within the agency’s budget.
COST STRUTURE: OOSA

Figure 110: Cost per trip OOSA

Source: Paratransit Peer Review Survey Response.

The cost to agency for each trip OOSA has an average of about $35, minimum of $21 and maximum of $46.14. RTC’s cost, when it provided the OOSA service before the service retraction, was $32, which is below average.
FUNDING SOURCES: OOSA

FUNDING SUMMARY

Figure 111: Funding sources summary OOSA, non-OOSA, RTC

Source: Paratransit Peer Review Survey Response.

This figure shows the number of times a funding source was mentioned for transit funding, both fixed and paratransit. The interesting factor in dividing this data up by OOSA, non-OOSA and RTC is that we begin to see that some funding sources are only used by OOSA or by non-OOSA. For example, only non-OOSA agencies use occupational license tax, payroll tax, and local partners. Only OOSA agencies use lottery tax, trust fund interest or labeled themselves ‘tax payer funded.’
FARE OOSA

Figure 112: Fare OOSA

The fare OOSA is a maximum of $16, minimum of just below $2, and average at $5.

Source: Paratransit Peer Review Survey Response.
Figure 113: Fare OOSA minimum per distance band

Source: Paratransit Peer Review Survey Response.

The distance bands are coded as follows:

1. ¼ mile beyond the ADA mandate (1 respondent selected this option)
2. ½ mile beyond the ADA mandate (no respondents selected this option)
3. ¾ mile beyond the ADA mandate (2 respondents selected this option)
4. 1+ miles beyond the ADA mandate (18 respondents selected this option)

There is no mathematical relationship between the distance band for which OOSA is provided and the fare charged. That is, as the distance increases, fare is not increasing. There also appears to be no consensus as would be evidenced by repeating values on the best fare for OOSA minimum per distance band.
Figure 114: Fare OOSA maximum per distance band

Source: Paratransit Peer Review Survey Response.

There is no mathematical relationship between the distance band for which OOSA is provided and the fare charged. That is, as the distance increases, fare is not increasing. There also appears to be no consensus on the fare for OOSA maximum per distance band.
CONCLUSION FOR OOSA NON-OOSA COMPARISON

The figures in this section paint a very interesting picture. First, agencies providing paratransit service OOSA have, on average, a denser population than agencies that do not. That is, there is a smaller average service area for OOSA agencies, but a higher average population. However, despite this denser average population, OOSA agencies are less productive for all modes as measured by both PMT and UPT for all transit modes. See Figure 85 on page 113 and Figure 87 on page 115. While this level of productivity is seen only in the aggregate number of PMT and UPT, inclusive of fixed route data, the DR statistics show the same pattern, primarily.

To be more specific, of all agencies providing DR-PT, OOSA agencies continue to be less productive for DR-only rides on average, as measured in UPT and PMT. However, for agencies providing DR-DO, OOSA agencies are more productive than agencies not providing paratransit service OOSA, though at a significantly lower scale than DR-PT.
RESULTS: OOSA DID V DID NOT SEEK ADDITIONAL FUNDING

Next the data was divided into agencies which sought special, additional funding for OOSA provision and those who did not.

PASSENGER MILES TRAVELED

Figure 115: PMT for agencies overview, did and did not seek OOSA-specific funding

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

This figure uses the PMT for both fixed and paratransit service published on the NTD 2016 Agency Profiles. While this provides context for commensurability, additional graphs will highlight DR-specific data.

This is a very interesting figure demonstrating agencies that did and did not seek additional transit funding specifically for use to provide OOSA. This figure shows that agencies who seek additional funding for OOSA provide overall more PMT than agencies that did not seek additional funding. For example, the minimum PMT for agencies which did seek OOSA-specific funding (minimum_Y) is over 60 million PMT, with a maximum of 2.172 million and an average of 523 million. While the minimum PMT of agencies that did not seek additional funding was the same as the minimum for
agencies that did, the maximum is considerably lower at 1.848 million PMT. What we see is that for agencies seeking additional OOSA-specific funding, the number of PMT supplied increased entirely. While the OOSA-specific funding is not necessarily an explanation for the ability to provide additional PMT, it is a logical possibility.

The following figures provide data that is DR only, from the NTD database.
Figure 116: PMT, agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC

In terms of DR PMT, the RTC outpaced both peer agencies providing DR-PT and DR-DO. The RTC provides significantly higher DR PMT than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding.

This is an interesting paradox between Figure 115 and this figure because what is evident is that for PMT inclusive of all modes, agencies seeking OOSA-specific funding are more productive; however, when evaluating DR mode only, agencies seeking OOSA-specific funding are less than half as productive on average as agencies not seeking OOSA-specific funding.

UNLINKED PASSENGER TRIPS

Figure 117: UPT for agencies overview, did and did not seek OOSA-specific funding

Source: National Transit Database Agency Profiles, and Paratransit Peer Review Survey Response.

This figure uses the PMT for both fixed and paratransit service published on the NTD 2016 Agency Profiles. While this provides context for commensurability, additional graphs will highlight DR-specific data.

This figure shows the same pattern as Figure 115 in that agencies which seek additional OOSA-specific funding appear to have increased productivity in terms of both PMT and UPT. While it can’t be said positively that this additional funding made this possible, but it is possible that the additional OOSA-specific funding freed up dollars to increase other assets or operations.

The following figures provide data that is DR only, from the NTD database.
Figure 118: Compare average UPT, did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC


In terms of DR UPT, the RTC outpaced both peer agencies providing DR-PT and DR-DO. The RTC provides significantly higher DR UPT than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding.
VEHICLE REVENUE MILES

The data for this figure represents demand response ("DR") data only, and is exclusive of fixed route data.

Figure 119: DR VRM, did and did not seek OOSA-specific funding, DR-PT, DR-DO, and RTC


In terms of DR VRM, the RTC outpaced both peer agencies providing DR-PT and DR-DO. The RTC provides significantly higher DR PMT than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding.
VEHICLE REVENUE HOURS

The data for this figure represents demand response ("DR") data only, and is exclusive of fixed route data.

Figure 120: DR VRH, did and did not seek OOSA-specific funding, DR-PT, DR_DO, and RTC


RTC exceeds DR VRH compared to both peer agencies providing DR-PT and DR-DO. The RTC provides significantly higher DR VRH than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding. On average, DR-PT produced much higher VRH than DR-DO.
VEHICLES OPERATING IN MAXIMUM SERVICE

The data for this figure represents demand response ("DR") data only, and is exclusive of fixed route data.

Figure 121: DR VOMS for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC


RTC exceeds DR VRH compared to both peer agencies providing DR-PT and DR-DO. The RTC provides significantly higher DR VRH than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding. On average, DR-PT produced much higher VRH than DR-DO.
OPERATING EXPENSE

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 122: DR total operating expenses for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC**


RTC exceeds DR operating expense total compared to both peer agencies providing DR-PT and DR-DO. The RTC incurs significantly higher DR total operating expense than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding. On average, DR-PT incurred higher DR operating expense totals than DR-DO.
OPERATING EXPENSE FOR VEHICLE OPERATIONS

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 123:** DR average operating expenses for vehicle operations, for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC


RTC exceeds DR operating expense for VO compared to both peer agencies providing DR-PT and DR-DO. The RTC incurs significantly higher DR operating expense for VO than the average for OOSA agencies that did not seek OOSA-specific funding, and even more than OOSA agencies that did seek OOSA-specific funding. On average, DR-PT incurred higher DR operating expense for VO than DR-DO.
OPERATING EXPENSE FOR GENERAL ADMINISTRATION

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 124: DR average operating expenses for general administration for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC**

Paratransit agencies providing paratransit OOSA, but not seeking OOSA-specific funding exceeds the RTC's and OOSA-funding-seeking agencies in average DR operating expenses for GA. On average, DR-PT incurred higher DR operating expense for GA than DR-DO.

OPERATING EXPENSE PER VEHICLE REVENUE MILE

The data for this figure represents demand response ("DR") data only, and is exclusive of fixed route data.

**Figure 125: DR operating expense per VRM for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC**

This figure represents a break from the visual pattern of the last few figures. DR-PT agencies incur, on average, far lower operating expense per VRM than DR-DO agencies. In particular, DR-DO agencies providing OOSA and seeking OOSA-specific funding have the highest DR operating expense per VRM of any graphed category.

Agencies seeking additional OOSA-specific funding show dramatically higher operating expense for DR VRM than any other category.

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 126: DR operating expense per VRH for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC**

Similar to the previous figure, DR-PT agencies incur, on average, far lower operating expense per VRH than DR-DO agencies. In particular, DR-DO agencies providing OOSA and seeking OOSA-specific funding have the highest DR operating expense per VRH of any graphed category.
OPERATING EXPENSE PER PASSENGER MILE TRAVELED

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 127: DR operating expense per PMT for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC**


This figure shows that all agencies providing DR have similar DR operating expense per PMT, between $3.25 and $4.10.
OPERATING EXPENSE PER UNLINKED PASSENGER TRIP

The data for this figure represents demand response (“DR”) data only, and is exclusive of fixed route data.

**Figure 128:** DR operating expense per UPT for agencies that did and did not seek OOSA-specific funding, DR-PT, DR-DO, RTC

This figure concurs with the previous graph, that while there is a larger variation, the DR operating expense per UPT is between $27 and $42, a somewhat close range. DR-PT agencies providing OOSA and seeking OOSA-specific funding have the lowest average DR operating expense per UPT, at about $27, while DR-DO agencies providing OOSA and seeking OOSA-specific funding have the highest average DR operating expense per UPT at about $42.

CONCLUSION FOR OOSA AGENCIES SEEKING VERSUS NOT SEEKING ADDITIONAL FUNDING

OOSA agencies that seek additional funding incur the lowest total average operating expenses of agencies that do not seek additional OOSA-specific funding. This finding is relevant for total operating expenses (see Figure 122), operating expenses for VO (see Figure 123) and operating expenses for GA (see Figure 124). However, the operating expenses were much higher than average for operating expense per VRM (see Figure 125), per VRH (see Figure 126), per PMT (see Figure 127), and per UPT (see Figure 128).
RECOMMENDATIONS

This section will present ideas and concepts for providing paratransit service outside the service area. These concepts are simple and are presented in a simple way to generate thought and consideration and are presented here as stimulus for further discussion.

PARITY WITH PEER AGENCIES

To maintain parity with peer agencies, implementing OOSA is not recommended. Regardless of OOSA implementation, considering the data on peer agencies, it is suggested that paratransit fare within the ADA mandate may be revisited, additional funding sources should be investigated, particularly state funding options, local funding sources including sales tax and innovative tax concepts used by peer agencies.

If it is determined that OOSA service will be implemented by RTC, the following recommendations for providing OOSA service and providing funding for its costs are provided below based on the data collected and analyzed regarding peer agencies.

OOSA

SERVICE PROVISION

Utilizing taxi or TNC relationships eliminates the capital expenses associated with performing the service in-house. This lack of fixed assets also makes volume more flexible according to budgetary needs and service use.

COST STRUCTURE

When RTC operated OOSA, the fare structure ranged from $6.75 per ride per passenger, to $9.75 per ride per passenger. These figures were derived by adding the base fare ($3.75) to the OOSA fare ($3.00) for the former fare, and adding an additional $3.00 fee for peak hour usage (between 6-9 am and 1-4 pm, Monday through Friday). If we take an average of this high and low fare, we arrive at $8.25 per ride, per passenger. At the time the service area was retracted from 1 ½ miles from fixed route to ¾ mile from fixed route, approximately 600 passengers were affected.

For the purpose of estimating costs, fare and revenues, we will assume that each passenger takes a maximum of 46 trips per month (2 trips per day per weekday, on average) based on historical RTC estimations. The estimated cost of each paratransit OOSA trip for RTC is $32. Given this average fare, service use frequency, and number of annual trips, we can provide the following cost and fare revenue estimates.

Number of annual trips required for 600 paratransit OOSA passengers: 331,200 (600 passengers x 46 trips per month x 12 months).

This generates $2,732,400 in fare revenue (331,200 annual trips x $8.25 average fare), making the funding required $7,866,000 per year, given estimates from historical usage patterns.
FUNDING SOURCES

This section will present ideas and concepts for funding paratransit service OOSA. These concepts are simple and are presented in a simple way to generate thought and consideration. Adoption of these funding sources will likely be politically and publicly challenging and these concepts are presented here as stimulus for further discussion.

TAXI/ TNC SURCHARGE

In the year 2017, there were 19,947,868 taxi trips. This was a 13.56% decrease from the 2016 volume (Source: Nevada Taxi Cab Authority). If we use that same % decrease to estimate the lowest-case scenario, that means in 2018 there will be an estimated 17,254,906 taxi trips. If a 50-cent surcharge was applied to each taxi trip, this would generate about $8.6 million in funding.

While the total number of TNC rides in Clark County is not known with any precision, if we estimate that TNC's have currently about 25% of the total number of rides as the taxi companies in Clark County (a very conservative estimate), this represents an additional 4,313,727 TNC rides per year. If a 50-cent ride surcharge was placed on each TNC ride, an additional $2.157 million can be generated in funding.

For a 50-cent surcharge on both taxi and TNC rides in Clark County, an additional $10.757 million in funding can be generated. This is a more than adequate funding source to cover the paratransit service OOSA.

REAL PROPERTY TRANSFER TAX

In 2017, 46,598 homes were sold in the Las Vegas Valley at an average home price of $280,000 (Source: Las Vegas Review Journal). The real property transfer tax is $1.95 per $500 sale price, indicating that the average price home of $280,000 would have about $1,092 in real property transfer tax. All tax money is transferred to the state of Nevada, minus a collection allowance granted by statute. Currently those collections are 0.10 per $500 value for Washoe and Churchill Counties, and 0.60 per $500 value for Clark County.

If this collection for Clark County could be increased to $1.00 total, providing 0.40 additional cents per $500 value in the home, $10.4 million of funding could be generated. (Calculated by average cost $280,000 x 46,598 homes sold in 2017, an additional 0.40 per $500 home value).

MARIJUANA TAX

The current marijuana tax structure is 15% for wholesalers (the remainder after paying for the marijuana programs goes to Nevada schools; was a ballot measure) and 10% for retail (all goes to the Nevada Rainy Day Fund; was a policy passed by the state legislature). The 10% retail tax amounted to about $30 million since legalization in mid-2017. There was approximately $69.8 million in total tax revenue for Nevada in the first 12 months after legalization. Current projections estimate $70 million in tax revenue for 2018 alone.
The case may be made with the legislature that a portion of that Nevada Rainy Day Fund could be used to provide service OOSA.
METHODOLOGY

POPULATION

A total of 75 agencies from the National Transit Database (“NTD”) were identified as peers for the Regional Transportation Commission of Southern Nevada (“RTC”). 50 of these agencies are in the NTD’s Top 50 Transit Agencies published annually and the remaining 25 agencies were identified by selecting those agencies with the next highest number of UPT. These 75 agencies formed the population of interest.

SAMPLE

Each of the 75 agencies were contacted by both telephone and email to identify the point of contact (“POC”) for the agency. The first survey wave yielded 47 completed surveys (see Initial survey instrument on page 235), and the follow-up non-respondent survey (see Non-respondents survey instrument on page 241) yielded 5 additional completed surveys.

DATA PREPARATION

PHASE 1: DATA CLEANING AND INTEGRATION FOR SURVEY DATA

File name: Survey Data Workbook Working Sheet.xlsx

1. Collect final data from full survey
2. Added an alternative survey ID (#s 1-75) to replace the 9-digit code initially representing the survey ID. This variable name is now AltSurveyID and is matched in both the survey data and the organizational data.
3. Transpose all survey questions and rename with suitable variable names
4. Identify duplicates
5. Define variable type (worksheet: VarsRecord). See Table 1 for details of all transformations, coding, and actions taken.
   a. Categorical (appropriate variable type for crosstabs banners and stubs)
   b. Continuous (appropriate variable type for crosstabs stubs and scatterplots)
   c. Nominal (Identifier)
   d. Qualitative (Text entry)
6. Determine the action to be taken with each variable.
   a. Code: for quantifying qualitative data
   b. Clean: for quantitative data that includes text entry
   c. Delete: eliminate due to duplication or if unneeded for quantitative analysis
   d. Retain: keep these variables as-is for the analysis
7. Full raw data is replicated into a new worksheet with the Question# as the row 1 and variable name as row 2. All response data is entered below matching up row 1 question # and row 2 variable name. (worksheet: CleanDataSheet)
8. Variables identified for deletion are deleted.

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9. Recode categorical yes/no variables so that “1” is “Yes” and “2” is “No” was recoded. This prepares the variables for regression analysis. See table of variable cleaning and preparation for a list of variables recoded in this manner.

10. Next, all continuous variables will be cleaned. That is, the continuous variables were entered in open-ended text entry fields and contain many other characters. These excess characters will be deleted so the variables are analyze-able.

11. For variable 7: Fare_ADA_Mandate, two additional variables will be generated: Fare_ADA_Mandate_MIN and Fare_ADA_Mandate_MAX. These variables will contain the minimum and maximum for all entries. If only one number is entered, that fare will be entered in BOTH the Min and Max variables. These will be given the numbers 7a and 7b. This process was repeated with variable 16: Fare_OOSA, with the two additional variables generated labeled 16a: Fare_OOSA_MIN and 16b: Fare_OOSA_MAX. The original variable 16 was deleted.

12. Some variables were deleted if there were no or only one response in the entire data set. This is not valuable for analysis. See table variable records for identification of which were variables were deleted and why.

13. Next, the qualitative variables will be coded so that they can be quantified. The following items describe treatment of qualitative variables.

14. Survey question #24 is deleted because there are not enough similarities to provide a coding scheme.

15. Survey question #29 is deleted because there are not enough similarities to provide a coding scheme.

16. Survey question #38 is deleted because there are no entries.

17. Survey question #45 is deleted because there is only one entry.

18. Survey question #47 is deleted because there are only 3 entries.

19. Survey question #49 deleted because there is only one entry.

20. Survey question #51 is deleted because there are not enough similarities to provide a coding scheme.

21. Survey question #52 was coded as
   a. Disabled
   b. Low income
   c. Seniors
   d. Veterans

22. The last qualitative field is the funding sources for both fixed and Paratransit budgets. The variable names development is on the worksheet: FundingSourcesVarNames. These will be named 10a – 10u, skipping “100” because it looks like zero. See Table 2.

23. The data from CleanDataSheet is copied to a new worksheet “ReadyForExport” with the variable identifying numbers removed. The data set is now prepared for export followed by integration.

24. Survey identification numbers were added for all organizations to integrate with additional data collection.

25. The worksheet “ReadyForExport” is exported to its own workbook: Survey_ReadyForExport.xlsx.

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Table 2: Variable records including survey name, named variable, type and action

<table>
<thead>
<tr>
<th>Question</th>
<th>Listed_As_In_Survey</th>
<th>Variable Name</th>
<th>Type</th>
<th>Action</th>
<th>Notes</th>
<th>Action Taken</th>
<th>Additional Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 AltSurveyID</td>
<td>AltSurveyID</td>
<td>Nominal</td>
<td>Retain</td>
<td></td>
<td></td>
<td>Retained</td>
<td></td>
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<tr>
<td>2 Survey ID#</td>
<td>SurveyID</td>
<td>Nominal</td>
<td>Delete</td>
<td></td>
<td></td>
<td>Deleted</td>
<td></td>
</tr>
<tr>
<td>3 Respondent Email</td>
<td>RespondEmail</td>
<td>Nominal</td>
<td>Delete</td>
<td></td>
<td></td>
<td>Deleted</td>
<td></td>
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<tr>
<td>4 Country Code</td>
<td>Country</td>
<td>Nominal</td>
<td>Delete</td>
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<td></td>
<td>Deleted</td>
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</tr>
<tr>
<td>5 Region</td>
<td>State</td>
<td>State</td>
<td>Retain</td>
<td></td>
<td></td>
<td>Retained</td>
<td></td>
</tr>
<tr>
<td>6 Does your transit agency maintain paratransit service within the ¾ mile ADA mandated boundary?</td>
<td>ADA_Mandate</td>
<td>Categorical</td>
<td>Recode</td>
<td></td>
<td></td>
<td>Recoded</td>
<td></td>
</tr>
<tr>
<td>7 What is the fare structure (cost to the customer per trip) to provide paratransit within the ¾ mile ADA service area?</td>
<td>Fare_ADA_Mandate</td>
<td>Continuous</td>
<td>Clean</td>
<td>Deleted this variable, replaced with 2 additional variables: Fare_ADA_Mandate_MIN and Fare_ADA_Mandate_MAX. These variables pur</td>
<td>Cleaned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 What is the average agency cost per passenger per trip cost to provide paratransit within</td>
<td>Cost_ADA_Mandate</td>
<td>Continuous</td>
<td>Clean</td>
<td></td>
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<td>Cleaned</td>
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<tr>
<td>9</td>
<td>What is your annual budget to provide paratransit services?</td>
<td>Budget_Paratransit</td>
<td>Continuous</td>
<td>Clean</td>
<td>Cleaned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>What are the funding sources for the agency's fixed and paratransit services?</td>
<td>FundSource_FixedPara</td>
<td>Qualitative</td>
<td>Code</td>
<td>Added variables 10a - 10u with each funding source listed, binary input</td>
<td>Cleaned</td>
<td>Original Variable #10 deleted</td>
</tr>
<tr>
<td>11</td>
<td>What percentage of the agency's total transit budget is expended on paratransit services?</td>
<td>PercentTotalBudgetPara</td>
<td>Continuous</td>
<td>Clean</td>
<td>Cleaned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Does your transit agency provide paratransit service outside the established ¾ mile boundary, Outside of Service Area (OOSA)?</td>
<td>OOSA</td>
<td>Categorical</td>
<td>Recode</td>
<td>Combine Q12 with Q23</td>
<td>Integrated</td>
<td>Recoded</td>
</tr>
<tr>
<td>13</td>
<td>What is the extended service area?</td>
<td>Distance_OOSA</td>
<td>Categorical</td>
<td>Retain</td>
<td>Retained</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Is this extended service considered &quot;paratransit&quot; or a &quot;premium&quot; service?</td>
<td>ParaOrPremium</td>
<td>Categorical</td>
<td>Retain</td>
<td>Retained</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Code</td>
<td>Description</td>
<td>Action</td>
<td>Notes</td>
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<tr>
<td>How does your transit agency define premium services?</td>
<td>PremiumDefine</td>
<td>Qualitative</td>
<td>Code</td>
<td>Only 3 inputs, 2 of which are the same, therefore deleted</td>
<td>Deleted</td>
<td></td>
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</tr>
<tr>
<td>What is the fare structure (cost to the customer per trip) to provide premium services OOSA?</td>
<td>Fare_OOSA</td>
<td>Continuous</td>
<td>Integrate</td>
<td>Combine Q16 with Q25</td>
<td>Integrate</td>
<td></td>
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</tr>
<tr>
<td>How many passengers utilize the extended service area on a monthly basis?</td>
<td>Trips_OOSA</td>
<td>Continuous</td>
<td>Clean</td>
<td>Cleaned</td>
<td>Cleaned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is your annual budget for premium OOSA?</td>
<td>Budget_OOSA</td>
<td>Continuous</td>
<td>Integrate</td>
<td>Combine Q18 with Q27</td>
<td>Integrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you pick up passengers OOSA as a means to access paratransit services within the service area?</td>
<td>Connect_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
<td>Recoded</td>
<td>Recoded</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please explain how your agency provides OOSA connections to paratransit services</td>
<td>Method_Connect_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
<td>Only 3 inputs, 2 of which say &quot;we don't&quot;, while the third said 'taxi service'</td>
<td>Deleted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Code</td>
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<tr>
<td>21</td>
<td>What is the fare structure (cost to the customer per trip) to provide OOSA connections to paratransit services within the service area?</td>
<td>Fare_Connect_OOSA</td>
<td>Continuous</td>
<td>Delete</td>
<td>Deleted because this question is redundant with Fare_OOSA responses</td>
<td>Deleted</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>What is your annual budget to provide OOSA connections to paratransit services within the service area?</td>
<td>Budget_Connect_OOSA</td>
<td>Continuous</td>
<td>Delete</td>
<td>Deleted because there is only one response</td>
<td>Deleted</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Do you pick up passengers OOSA as an ADA paratransit service?</td>
<td>OOSA</td>
<td>Categorical</td>
<td>Recode</td>
<td>Combine Q12 with Q23</td>
<td>Integrate d</td>
<td>Recoded</td>
</tr>
<tr>
<td>24</td>
<td>What model(s) does your agency use to provide OOSA ADA paratransit services?</td>
<td>Model_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
<td></td>
<td>Deleted</td>
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</tr>
<tr>
<td>25</td>
<td>What is the fare structure (cost to the customer per trip) for OOSA ADA paratransit services?</td>
<td>Fare_OOSA</td>
<td>Continuous</td>
<td>Integrate d</td>
<td>Combine Q16 with Q25</td>
<td>Integrate d</td>
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<tr>
<td></td>
<td>Question</td>
<td>Code</td>
<td>Notes</td>
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<tr>
<td>26</td>
<td>What is the average agency cost per passenger per trip OOSA?</td>
<td>Cost_OOSA</td>
<td>Continuous</td>
<td>Clean</td>
<td></td>
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</tr>
<tr>
<td>27</td>
<td>What is your annual budget to provide OOSA ADA paratransit services?</td>
<td>Budget_OOSA</td>
<td>Continuous</td>
<td>Integrate Q18 with Q27</td>
<td>Integrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Were additional funding sources identified to provide service OOSA?</td>
<td>Fund_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>What additional funding sources were identified?</td>
<td>FundSource_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>What percentage of the total paratransit services budget is provided through these additional sources? Additional Paratransit Sources Budget Percentage</td>
<td>PercentFundSourcePara</td>
<td>Continuous</td>
<td>Clean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>What percentage of the agency’s paratransit services would be unavailable without additional funding? Percent of services unavailable without funding</td>
<td>PercentUnavailable</td>
<td>Continuous</td>
<td>Clean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

172
<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Code</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Do nonprofit partners assist in providing service OOSA?</td>
<td>Nonprofit_Partners_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>33</td>
<td>How do your nonprofit partners assist in providing services OOSA?</td>
<td>Method_Nonprofit_Partners_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>34</td>
<td>Does your transit agency partner with Transportation Network Companies [TNC] to provide service OOSA?</td>
<td>TNC_Partners_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>35</td>
<td>Is there a cap on how many rides an individual customer may take OOSA per month from TNC service providers?</td>
<td>TNC_Cap_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>36</td>
<td>What is the individual customer monthly TNC cap?</td>
<td>TNC_Cap_OOSA_Quant</td>
<td>Continuous</td>
<td>Clean</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Deleted because there are no responses</td>
</tr>
<tr>
<td>37</td>
<td>Does the OOSA paratransit or premium service provided by TNC operate on a reduced schedule such as hours of the day and or days per week?</td>
<td>TNC_Schedule_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>38</td>
<td>Please explain how</td>
<td>TNC_Schedule_Qual_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
</tbody>
</table>

**Paratransit Peer Review**
<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Code/Type</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Are there capacity constraints and/or limitations on the number of trips your agency will provide through TNC service providers?</td>
<td>TNC_Constraints_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>40</td>
<td>What capacity and/or limitations does your agency have on the number of TNC trips provided?</td>
<td>TNC_Constraints_Qual_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>41</td>
<td>Does your transit agency partner with Taxi Companies to provide service OOSA?</td>
<td>Taxi_Partners_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>42</td>
<td>Is there a cap on how many rides an individual customer may take OOSA per month by Taxi Companies?</td>
<td>Taxi_Cap_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>43</td>
<td>What is the individual customer monthly Taxi Companies ride cap?</td>
<td>Taxi_Cap_Qual_OOSA</td>
<td>Continuous</td>
<td>Clean</td>
</tr>
<tr>
<td>44</td>
<td>Does the OOSA paratransit or TNC provide paratransit or premium services operate.</td>
<td>Taxi_Schedule_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
</tbody>
</table>

**Deleted**

- Code: TNC_Constraints_OOSA
- Code: TNC_Constraints_Qual_OOSA
- Code: Taxi_Partners_OOSA
- Code: Taxi_Cap_OOSA
- Code: Taxi_Cap_Qual_OOSA
- Code: Taxi_Schedule_OOSA

174
<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Type</th>
<th>Recode</th>
</tr>
</thead>
<tbody>
<tr>
<td>premium service provided by Taxi Companies operate on a reduced schedule such as hours of the day and or days per week?</td>
<td>Taxi_Schedule_Qual_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>Please explain how Taxi Companies provided paratransit or premium services operate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there capacity constraints and/or limitations on the number of trips your agency will provide through Taxi Companies?</td>
<td>Taxi_Constraints_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>What capacity and/or limitations does your agency have on number of trips provided?</td>
<td>Taxi_Constraints_Qual_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>Are there other innovative and/or technology enhancements used by your agency to assist with providing service OOSA?</td>
<td>Tech_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td></td>
<td>Tech_Qual_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>Question</td>
<td>Code</td>
<td>Type</td>
<td>Status</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>What types of technology enhancements are used to provide services OOSA?</td>
<td>Addl_Pax_OOSA</td>
<td>Categorical</td>
<td>Recode</td>
</tr>
<tr>
<td>Does your agency also provide transportation services beyond fixed route to seniors and other passengers that are not paratransit eligible, either inside the ¾ mile ADA boundary or OOSA?</td>
<td>Addl_Pax_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>What type of transportation services does your agency provide?</td>
<td>Addl_Pax_Service_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>Please explain what passengers are eligible for these additional services?</td>
<td>Addl_Type_Pax_OOSA</td>
<td>Qualitative</td>
<td>Code</td>
</tr>
<tr>
<td>What is the fare structure (cost to the customer per trip) for these additional services?</td>
<td>Fare_Addl_Pax_OOSA</td>
<td>Continuous</td>
<td>Clean</td>
</tr>
<tr>
<td></td>
<td>Budget_Addl_Pax_OOSA</td>
<td>Continuous</td>
<td>Clean</td>
</tr>
</tbody>
</table>
What is your annual budget to provide these additional services?

<table>
<thead>
<tr>
<th></th>
<th>What is your annual budget to provide these additional services?</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>First and Last Name</td>
<td>Name</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>56</td>
<td>Agency</td>
<td>Agency</td>
<td>Agency</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>57</td>
<td>Address Line 1</td>
<td>Address_1</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>58</td>
<td>Address Line 2</td>
<td>Address_2</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>59</td>
<td>City</td>
<td>City</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>60</td>
<td>State</td>
<td>State</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>61</td>
<td>Zip Code</td>
<td>ZipCode</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>62</td>
<td>Phone</td>
<td>Phone</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
<tr>
<td>63</td>
<td>Email Address</td>
<td>Email</td>
<td>Nominal</td>
<td>Delete</td>
<td>Deleted</td>
</tr>
</tbody>
</table>
### Table 3: Funding fields with question #, description and variable names

<table>
<thead>
<tr>
<th>Question#</th>
<th>Description</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>10a</td>
<td>5307</td>
<td>5307</td>
</tr>
<tr>
<td>10b</td>
<td>5310</td>
<td>5310</td>
</tr>
<tr>
<td>10c</td>
<td>Ad valorem tax</td>
<td>AdValoremTax</td>
</tr>
<tr>
<td>10d</td>
<td>Advertising</td>
<td>Advertising</td>
</tr>
<tr>
<td>10e</td>
<td>City general fund</td>
<td>CityGeneralFund</td>
</tr>
<tr>
<td>10f</td>
<td>Fares</td>
<td>Fares</td>
</tr>
<tr>
<td>10g</td>
<td>Federal funds</td>
<td>FederalFunds</td>
</tr>
<tr>
<td>10h</td>
<td>FTA</td>
<td>FTA</td>
</tr>
<tr>
<td>10i</td>
<td>Gas tax</td>
<td>GasTax</td>
</tr>
<tr>
<td>10j</td>
<td>Interest from trust fund</td>
<td>TrustFundInt</td>
</tr>
<tr>
<td>10k</td>
<td>Local funds</td>
<td>LocalFunds</td>
</tr>
<tr>
<td>10l</td>
<td>Local partners</td>
<td>LocalPartners</td>
</tr>
<tr>
<td>10m</td>
<td>Lottery tax</td>
<td>LotteryTax</td>
</tr>
<tr>
<td>10n</td>
<td>Mortgage recording tax</td>
<td>MortgageTax</td>
</tr>
<tr>
<td>10p</td>
<td>Motor vehicle registration fees</td>
<td>VehicleRegFees</td>
</tr>
<tr>
<td>10q</td>
<td>Payroll tax</td>
<td>PayrollTax</td>
</tr>
<tr>
<td>10r</td>
<td>Sales tax</td>
<td>SalesTax</td>
</tr>
<tr>
<td>10s</td>
<td>State funds</td>
<td>StateFunds</td>
</tr>
<tr>
<td>10t</td>
<td>Taxpayer funded</td>
<td>TaxPayerFunded</td>
</tr>
<tr>
<td>10u</td>
<td>TNC/ taxi tax</td>
<td>TNCTaxiTax</td>
</tr>
</tbody>
</table>

**PHASE 2: ADD INTERVIEW AND EMAIL INFORMATION TO THE DATASET**

1. A new worksheet was created with only the variable names as listed in the Full Integration data set.
2. The variables in which new data may be entered based on the interview and email information include
   a. Funding sources, specific
      i. 5307
      ii. 5310
      iii. AdValoremTax
      iv. Advertising
      v. CityGeneralFund
      vi. Fares
      vii. FederalFunds
      viii. FTA
      ix. GasTax
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x. TrustFundInt
xi. LocalFunds
xii. LocalPartners
xiii. LotteryTax
xiv. MortgageTax
xv. VehicleRegFees
xvi. PayrollTax
xvii. SalesTax
xviii. StateFunds
xix. TaxPayerFunded
xx. TNCTaxiTax

b. If additional funding sources were identified for OOSA
   i. Fund_OOSA

c. If other partners are used for providing OOSA
   i. Nonprofit_Partners_OOSA
   ii. TNC_Partners_OOSA
   iii. Taxi_Partners_OOSA

d. TNC detail
   i. TNC_Cap_OOSA
   ii. TNC_Schedule_OOSA
   iii. TNC_Constraints_OOSA

e. Taxi detail
   i. Taxi_Cap_OOSA
   ii. Taxi_Schedule_OOSA
   iii. Taxi_Constraints_OOSA

3. The sources for this data were as follows
   a. Emails received from survey respondents
   b. Phone interviews with survey respondents
   c. Non-respondents surveys

4. This data was entered into a spreadsheet with the name Qualitative Coding for Adding to Full Integration.

5. All additional survey data was then added to the file Survey_ReadyForExport_V2.xlsx.

**PHASE 3: DATA CLEANING AND INTEGRATION OF ORGANIZATIONAL DATA**

**File name: Full organizational data**

1. Collect final data from organizational information
2. Transpose all data fields and rename with suitable variable names. For variables which will definitely be deleted, no variable name or type is suggested.
3. Define variable type (worksheet: VarsRecord)
   a. Categorical (appropriate variable type for crosstabs banners and stubs)
   b. Continuous (appropriate variable type for crosstabs stubs and scatterplots)
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c. Nominal (Identifier)
d. Qualitative (Text entry)
4. Identify action to be taken with the variable.
   a. Code: for quantifying qualitative data
   b. Clean: for quantitative data that includes text entry
   c. Delete: eliminate due to duplication or if unneeded for quantitative analysis
   d. Retain: keep these variables as-is for the analysis
5. Code DBA with “1” if a DBA name is listed, and empty if nothing is listed.
6. All variables identified for deletion were deleted. See worksheet VarsRecord in file Full organizational data.
7. All variables identified for retention were retained. See worksheet VarsRecord in file Full organizational data.
8. Non-responding organizations were provided with an AltSurveyID to provide the ability to integrate the two data sets, including the non-respondent survey data input.
9. The data from CleanDataSheet was copied to a new worksheet “ReadyForExport” with the variable identifying numbers removed. The data set is now prepared for exported followed by integration.
10. The worksheet “ReadyForExport” is exported to its own workbook: OrgData_ReadyForExport_V2.xlsx.

PHASE 4: DATASETS INTEGRATION
1. First, both files identified at the end of each phase were imported into Access. Database name: RTC_Paratransit_Agency_V2.
2. Join relationship was created for AltSurveyID to join the two data tables.
3. A query was run to integrate both data sets based on the AltSurveyID.
4. The resulting integrated data set was exported to an Excel spreadsheet with the file name Full Integration_V2.xlsx.
5. Export was successful.
PHASE 5: ANALYSIS OF INTEGRATED DATASET

1. A list of all variables in both the organizational and survey data sets was created and integrated to determine the next steps in the analysis process.
2. All variables that were deleted or were nominal (except State and region) were removed from the list. This integrated, final list of variables for analysis is in the worksheet: AllVars in the file Full Integration_V2_Variables.
3. All non-essential fields/ columns were removed, leaving source, variable name, and type in the worksheet EssentialAllVars in the workbook Full Integration_V2_Variables. There are 57 variables remaining in the list which will be analyzed. The variable types and their counts are listed in the table below.

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categorical</td>
<td>20</td>
</tr>
<tr>
<td>Continuous</td>
<td>36</td>
</tr>
<tr>
<td>Nominal</td>
<td>1</td>
</tr>
</tbody>
</table>

PHASE 6: ADDITION OF VARIABLES TO THE INTEGRATED DATA SET

1. After the data sets were integrated, some errors were noted in existing data fields when compared to the same data in the most recently available NTD transit agency profiles (2016). Some errors were egregious, which warranted further investigation. Upon further investigation, there were listed numbers over 3x the quantity listed in the 2016 NTD transit agency profiles.
2. Upon investigation, it was also discovered that several data points available in the NTD transit agency profiles would be essential to the full data analysis. These variables will be added to the data set:
   a. Sources of operating funds expended

<table>
<thead>
<tr>
<th>Description</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fare revenues</td>
<td>OpFundFares</td>
</tr>
<tr>
<td>Local funds</td>
<td>OpFundLocal</td>
</tr>
<tr>
<td>State funds</td>
<td>OpFundState</td>
</tr>
<tr>
<td>Federal assistance</td>
<td>OpFundFed</td>
</tr>
<tr>
<td>Other funds</td>
<td>OpFundOther</td>
</tr>
</tbody>
</table>

b. Sources of capital funds expended

<table>
<thead>
<tr>
<th>Description</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fare revenues</td>
<td>CapFundFares</td>
</tr>
<tr>
<td>Local funds</td>
<td>CapFundLocal</td>
</tr>
<tr>
<td>State funds</td>
<td>CapFundState</td>
</tr>
<tr>
<td>Federal assistance</td>
<td>CapFundFed</td>
</tr>
<tr>
<td>Other funds</td>
<td>CapFundOther</td>
</tr>
</tbody>
</table>
c. Operating expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary, wages, benefits</td>
<td>OpExpWage</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>OpExpMaterial</td>
</tr>
<tr>
<td>Purchased transportation</td>
<td>OpExpPurchTrans</td>
</tr>
<tr>
<td>Other</td>
<td>OpExpOther</td>
</tr>
</tbody>
</table>

d. Service efficiency and effectiveness: Note that bus only is used for operating expenses per vehicle to make this most comparable to RTC.

<table>
<thead>
<tr>
<th>Description</th>
<th>Variable name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating expense per vehicle revenue mile BUS ONLY</td>
<td>OpExpVehRevMile</td>
</tr>
<tr>
<td>Operating expense per vehicle revenue hour BUS ONLY</td>
<td>OpExpVehRevHour</td>
</tr>
<tr>
<td>Operating expense per passenger mile BUS ONLY</td>
<td>OpExpPaxMile</td>
</tr>
<tr>
<td>Operating expense per unlinked passenger trip BUS ONLY</td>
<td>OpExpUnlinkTrip</td>
</tr>
</tbody>
</table>

3. UZA-level variables are also deleted: includes
   a. Area
   b. Population
   c. Density (calculated)

4. Only service area statistics will be retained and calculated.

5. Data was imported into SPSS 24.

6. Changed all variable types to Numeric from String, except legitimate string variables such as
   a. Agency name
   b. DBA_YN
   c. OrgType
   d. State

7. Dataset saved as RTC Paratransit Agency -> Full Integrated Dataset V3.sav

8. Descriptives will be evaluated and presented for continuous variables.

9. Frequencies will be evaluated and presented for categorical variables.

10. Next, I used SPSS to identify and analyze significant correlations between variables. Initially, I tested all variable correlations. Significant correlations of adequate magnitude (>50%, < -50%) are highlighted in red in the table below. Pearson correlation was used.
Paratransit Peer Review
Correlations
Variables
ServArea_Miles
ServArea_Pop
PaxMiles
UnlinkedTrips
VehRevMiles
VehRevHours
VOMS
OpFundFares
OpFundLocal
OpFundState
OpFundFed
OpFundOther
OpFundTotal
CapFundFares
CapFundLocal
CapFundState
CapFundFed
CapFundOther
CapFundTotal
OpExpWage
OpExpMaterial
OpExpPurchTrans
OpExpOther
OpExpTotal
OpExpVehRevMile
OpExpVehRevHour
OpExpPaxMile
OpExpUnlinkTrip
ADA_Mandate
Fare_ADA_Mandate_MIN
Fare_ADA_Mandate_MAX
Cost_ADA_Mandate
Budget_Paratransit
PercentTotalBudgetPara
OOSA
Distance_OOSA
ParaOrPremium
Fare_OOSA_MIN
Fare_OOSA_MAX
Budget_OOSA
Cost_OOSA
Fund_OOSA
Nonprofit_Partners_OOSA
TNC_Partners_OOSA
Taxi_Partners_OOSA
Taxi_Cap_OOSA
Taxi_Schedule_OOSA
Taxi_Constraints_OOSA
Tech_OOSA
Addl_Pax_OOSA
Fare_Addl_Pax_OOSA
Budget_Addl_Pax_OOSA

ServArea_Miles ServArea_Pop
PaxMiles UnlinkedTrips
VehRevMiles
VehRevHours
VOMS OpFundFares
OpFundTotalCapFundFares
CapFundLocal
CapFundState
CapFundFedCapFundOther
CapFundTotal
OpExpWageOpExpMaterial
OpExpPurchTrans
OpExpVehRevHour
OpExpPaxMile
OpExpUnlinkTrip
ADA_Mandate
Fare_ADA_Mandate_MIN
Fare_ADA_Mandate_MAX
Cost_ADA_Mandate
Budget_Paratransit
PercentTotalBudgetPara
OOSA Distance_OOSA
ParaOrPremium
Fare_OOSA_MIN
Fare_OOSA_MAX
Budget_OOSA
Cost_OOSAFund_OOSANonprofit_Partners_OOSA
TNC_Partners_OOSA
Taxi_Partners_OOSA
Taxi_Cap_OOSA
Taxi_Schedule_OOSA
Taxi_Constraints_OOSA
Tech_OOSAAddl_Pax_OOSA
Fare_Addl_Pax_OOSA
Budget_Addl_Pax_OOSA
1 0.673 0.136 0.001 0.22 0.151 0.294 0.098 0.137 -0.014 0.707 0.179 0.11 -0.063 0.342 -0.055 0.088 -0.082 0.129 0.078 0.295 0.249 0.24 0.122 -0.081 -0.018 -0.204 0.154 0.036 -0.05 -0.144 0.139 0.181 0.096 -0.037 -0.667 0.007 -0.316 -0.437 -0.485 0.912 -0.147 -0.198 0.067 -0.093 0.202 0.075 -0.371 -0.01 -0.044 0.104 -0.452
0.673
1 0.659 0.547 0.737 0.687 0.782 0.604 0.681 0.51 0.705 0.589 0.643 0.438 0.598 0.158 0.591 0.42 0.677 0.613 0.772 0.549 0.763 0.653 0.374 0.225 -0.019 0.019 0.048 0.031 -0.054 0.339 0.687 0.198 0.015 -0.296 0.292 -0.143 -0.202 -0.477 0.302 0.093 -0.075 -0.16 -0.143 0.218 -0.432 0.231 0.017 -0.09 0.023 0.453
0.136 0.659
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1 0.974 0.712 0.45 0.184 -0.1 0.044 0.002 -0.002 0.59 0.882 0.004 -0.146 -0.005 0.485 -0.174 -0.077 -0.532 -0.958 0.24 -0.211 -0.111 -0.263 -0.259 -0.351 0.023 0.061 -0.135 0.012 -0.63
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0.387 0.247 0.803 0.462
0.202 0.218 -0.525 -0.658 -0.354 -0.431 -0.368 -0.742 -0.115 -0.408 -0.269 -0.255 -0.348 -0.167 -0.347 -0.225 -0.326 -0.172 -0.312 -0.376 -0.323 -0.094 -0.259 -0.492 -0.496 -0.551 -0.011 -0.005 .c
0.16 0.16 0.116 -0.238 -0.32 .c
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.c
-0.258 -0.167 .c
1 -0.167 -0.354 -0.167 0.471 .c
0.11
0.075 -0.432 -0.296 -0.353 -0.495 -0.515 -0.412 0.121 -0.312 -0.001 -0.285 -0.193 -0.336 -0.167 -0.335 -0.225 -0.341 -0.172 -0.313 -0.402 -0.44 0.279 -0.351 -0.343 0.668 0.577 -0.256 -0.141 .c
0.628 0.628 -0.216 -0.406 -0.549 .c
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-0.258 -0.167 .c
-0.167
1 -0.354 -0.167 -0.354 .c
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0.092 -0.108 -0.133 -0.186 .c
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-0.49
-0.044 -0.09 -0.224 -0.164 -0.116 -0.04 0.015 -0.165 -0.089 -0.018 -0.127 0.168 -0.114 0.095 -0.217 -0.3 -0.265 -0.18 -0.266 -0.17 -0.122 0.071 -0.135 -0.149 -0.348 -0.384 0.019 -0.205 .c
0.093 -0.206 -0.054 -0.188 -0.217 .c
0.303 -0.357 -0.271 -0.349 .c
.c
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1 .c
.c
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-1 -1 .c
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-0.117 0.82 -0.49 0.462 0.11 .c
0.806 -0.49 .c
1
1

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11. Each set of correlations for the survey question data will be shown and described below.
12. ADA_Mandate: Not correlated with any other variable; not even a weak correlation.
13. Fare_ADA_Mandate_MIN: strong, positive significant correlation with
   a. Fare_ADA_Mandate_MAX
   b. Fare_OOSA_MIN
   c. Fare_OOSA_MAX
   d. Cost_OOSA
   e. Taxi_Schedule_OOSA
   f. Budget_Addl_Pax_OOSA
14. Fare_ADA_Mandate_MAX: 
   a. Strong, positive significant correlation with 
      i. Fare_ADA_Mandate_MIN 
      ii. Fare_OOSA_MAX 
      iii. Taxi_Schedule_OOSA 
      iv. Budget_Addl_Pax_OOSA 
   b. Strong, negative significant correlation with 
      i. Budget_OOSA 
      ii. Cost_OOSA 
15. Cost_ADA_Mandate 
   a. Strong, positive significant correlation with 
      i. PaxMiles 
      ii. UnlinkedTrips 
      iii. VehRevMiles 
      iv. VehRevHours 
      v. VOMS 
      vi. OpFundFares 
      vii. OpFundLocal 
      viii. OpFundState 
      ix. OpFundOther 
      x. OpFundTotal 
      xi. CapFundFares 
      xii. CapFundFed 
      xiii. CapFundOther 
      xiv. CapFundTotal 
      xv. OpExpWage 
      xvi. OpExpMaterial 
      xvii. OpExpPurchTrans 
      xviii. OpExpOther 
      xix. OpExpTotal 
      xxi. OpExpVehRevHour 
      xxii. Budget_Paratransit 
      xxiii. Budget_OOSA
xxiv. Fare_Addl_Pax_OOSA  

b. Strong, negative significant correlation with  
   i. Cost_OOSA  
   ii. Fund_OOSA  
   iii. Budget_Addl_Pax_OOSA  

16. Budget_Paratransit  
   a. Strong, positive significant correlation with  
      i. ServArea_Pop  
      ii. PaxMiles  
      iii. UnlinkedTrips  
      iv. VehRevMiles  
      v. VehRevHours  
      vi. VOMS  
      vii. OpFundFares  
      viii. OpFundLocal  
      ix. OpFundState  
      x. OpFundOther  
      xi. OpFundTotal  
      xii. CapFundFares  
      xiii. CapFundFed  
      xiv. CapFundOther  
      xv. CapFundTotal  
      xvi. OpExpWage  
      xvii. OpExpMaterial  
      xviii. OpExpPurchTrans  
      xix. OpExpOther  
      xx. OpExpTotal  
      xxi. OpExpVehRevMile  
      xxii. Cost_ADA_Mandate  
      xxiii. Cost_OOSA  
      xxiv. Taxi_Constraints_OOSA  

b. Strong, negative significant correlation with  
   i. Distance_OOSA  

17. PercentTotalBudgetPara  
   a. Strong, positive significant correlation with  
      i. Cost_OOSA  
      ii. Taxi_Constraints_OOSA  
      iii. Budget_Addl_Pax_OOSA  

b. Strong, negative significant correlation with  
   i. Budget_OOSA  
   ii. Taxi_Schedule_OOSA  
   iii. Fare_Addl_Pax_OOSA  

18. OOSA  
   a. Strong, positive significant correlation with no variables
b. Strong, negative significant correlation with TNC_Partners_OOSA

19. Distance_OOSA
   a. Strong, positive significant correlation with Cost_OOSA
   b. Strong, negative significant correlation with
      i. ServArea_Miles
      ii. CapFundFares
      iii. Budget_Paratransit

20. ParaOrPremium has no significant correlations with other variables

21. Fare_OOSA_MIN
   a. Strong, positive significant correlation with
      i. OpFundState
      ii. OpExpUnlinkTrip
      iii. Fare_ADA_Mandate_MIN
      iv. Fare_OOSA_MAX
   b. No strong, negative significant correlations

22. Fare_OOSA_MAX
   a. Strong, positive significant correlation with
      i. OpFundState
      ii. CapFundOther
      iii. OpExpVehRevHour
      iv. OpExpUnlinkTrip
      v. Fare_ADA_Mandate_MIN
      vi. Fare_ADA_Mandate_MAX
      vii. Fare_OOSA_MIN
   b. Strong, negative significant correlation with
      i. Budget_OOSA
      ii. Cost_OOSA

23. Budget_OOSA
   a. Strong, positive significant correlation with
      i. CapFundState
      ii. OpExpPurchTrans
      iii. Cost_ADA_Mandate
   b. Strong, negative significant correlation with
      i. OpFundState
      ii. OpFundOther
      iii. CapFundOther
      iv. OpExpWage
      v. OpExpMaterial
      vi. OpExpOther
      vii. OpExpPaxMile
      viii. OpExpUnlinkTrip
      ix. Fare_ADA_Mandate_MAX
      x. PercentTotalBudgetPara
      xi. Fare_OOSA_MAX
24. Cost_OOSA
   a. Strong, positive significant correlation with
      i. ServArea_Miles
      ii. CapFundState
      iii. OpExpPurchTrans
      iv. Budget_Paratransit
      v. PercentTotalBudgetPara
      vi. Distance_OOSA
      vii. Nonprofit_Partners_OOSA
      viii. Taxi_Partners_OOSA
   b. Strong, negative significant correlation with
      i. PaxMiles
      ii. UnlinkedTrips
      iii. VehRevMiles
      iv. OpFundFares
      v. OpFundFed
      vi. OpFundOther
      vii. OpFundTotal
      viii. CapFundOther
      ix. OpExpWage
      x. OpExpMaterial
      xi. OpExpOther
      xii. OpExpTotal
      xiii. OpExpVehRevHour
      xiv. OpExpUnlinkTrip
      xv. Fare_ADA_Mandate_MIN
      xvi. Fare_ADA_Mandate_MAX
      xvii. Cost_ADA_Mandate
      xviii. Fare_OOSA_MAX

25. Fund_OOSA
   a. No strong, positive significant correlations
   b. Strong, negative significant correlation with
      i. Cost_ADA_Mandate
      ii. Fare_Addl_Pax_OOSA

26. Nonprofit_Partners_OOSA
   a. Strong, positive significant correlation with
      i. Cost_OOSA
      ii. Taxi_Constraints_OOSA
      iii. Budget_Addl_Pax_OOSA
   b. Strong, negative significant correlation with
      i. Fare_Addl_Pax_OOSA

27. TNC_Partners_OOSA
   a. Strong, positive significant correlation with Tech_OOSA
   b. Strong, negative significant correlation with OOSA
28. Taxi_Partners_OOSA
   a. Strong, positive significant correlation with
      i. Cost_OOSA
      ii. Fare_Addl_Pax_OOSA
   b. No strong, negative significant correlations

29. Taxi_Cap_OOSA
   a. No strong, positive significant correlations
   b. Strong, negative significant correlation with
      i. PaxMiles
      ii. UnlinkedTrips
      iii. OpFundFares
      iv. OpExpVehRevHour

30. Taxi_Schedule_OOSA
   a. Strong, positive significant correlation with
      i. OpExpVehRevMile
      ii. OpExpVehRevHour
      iii. Fare_ADA_Mandate_MIN
      iv. Fare_ADA_Mandate_MAX
   b. Strong, negative significant correlation with
      i. VehRevHours
      ii. PercentTotalBudgetPara

31. Taxi_Constraints_OOSA
   a. Strong, positive significant correlation with
      i. VOMS
      ii. CapFundLocal
      iii. CapFundState
      iv. CapFundFed
      v. CapFundTotal
      vi. Budget_Paratransit
      vii. PercentTotalBudgetPara
      viii. Nonprofit_Partners_OOSA
      ix. Budget_Addl_Pax_OOSA
   b. No strong, negative significant correlations

32. Tech_OOSA
   a. Strong, positive significant correlation with TNC_Partners_OOSA
   b. No strong, negative significant correlations

33. Addl_Pax_OOSA has no strong significant correlations

34. Fare_Addl_Pax_OOSA
   a. Strong, positive significant correlation with
      i. OpFundFed
      ii. CapFundLocal
      iii. OpExpPurchTrans
      iv. OpExpPaxMile
      v. OpExpUnlinkTrip
vi. Cost_ADA_Mandate
vii. Taxi_Partners_OOSA
b. Strong, negative significant correlation with
   i. PaxMiles
   ii. UnlinkedTrips
   iii. VehRevMiles
   iv. OpFundFares
   v. OpFundOther
   vi. CapFundFed
   vii. CapFundTotal
   viii. OpExpWage
   ix. OpExpMaterial
   x. PercentTotalBudgetPara
   xi. Fund_OOSA
   xii. Nonprofit_Partners_OOSA

35. Budget_Addl_Pax_OOSA
   a. Strong, positive significant correlation with
      i. OpFundState
      ii. CapFundState
      iii. Fare_ADA_Mandate_MIN
      iv. Fare_ADA_Mandate_MAX
      v. PercentTotalBudgetPara
      vi. Nonprofit_Partners_OOSA
      vii. Taxi_Constraints_OOSA
   b. Strong, negative significant correlation with
      i. PaxMiles
      ii. UnlinkedTrips
      iii. OpFundLocal
      iv. OpFundOther
      v. OpFundTotal
      vi. CapFundLocal
      vii. CapFundFed
      viii. CapFundTotal
      ix. OpExpWage
      x. OpExpMaterial
      xi. OpExpOther
      xii. OpExpTotal
      xiii. Cost_ADA_Mandate
Data was separated into two data sets: No-OOSA and OOSA. Descriptives were run again with the groups separated.

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<tr>
<th></th>
<th>No OOSA Provided</th>
<th>OOSA Provided</th>
<th>RTC</th>
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<td>758</td>
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<tr>
<td>ServArea_Pop</td>
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<td>2,300,742</td>
<td>2,008,655</td>
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<tr>
<td>PaxMiles</td>
<td>1,060,305.462</td>
<td>441,018,905</td>
<td>259,288,602</td>
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<td>UnlinkedTrips</td>
<td>239,022,946</td>
<td>72,554,866</td>
<td>67,346,272</td>
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<tr>
<td>VehRevMiles</td>
<td>58,289,185</td>
<td>36,786,613</td>
<td>26,925,296</td>
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<td>VehRevHours</td>
<td>4,039,400</td>
<td>2,443,245</td>
<td>2,116,833</td>
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<td>VOMS</td>
<td>1,386</td>
<td>1,032</td>
<td>612</td>
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<td>OpFundFares</td>
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<td>$72,707,522.00</td>
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### Paratransit Peer Review

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<th>$28,976,562.28</th>
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<td>OpExpVehRevHour</td>
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<td>$136.95</td>
<td>$101.56</td>
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<td>OpExpPaxMile</td>
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<td>$0.99</td>
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<td>Fare_ADA_Mandate_MIN</td>
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<td>309%</td>
<td>300%</td>
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<td>Fare_ADA_Mandate_MAX</td>
<td>385%</td>
<td>370%</td>
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<td>Cost_ADA_Mandate</td>
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<td>3958%</td>
<td>3730%</td>
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<td>PercentTotalBudgetPara</td>
<td>16%</td>
<td>18%</td>
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Minimum, maximum, and average provided compared to RTC

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<tr>
<th>ServArea_Miles</th>
<th>Minimum_N_OOSA</th>
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<th>Mean_N_OOSA</th>
<th>RTC</th>
<th>Minimum_Y_OOSA</th>
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37. Next, the data set was divided into agencies which sought additional funding for OOSA and those who did not seek additional funding for OOSA, with RTC added in for comparison.
CROSSTABS

38. Two (2) sets of crosstabs were generated within SPSS. These were
   a. Banner 1: OOSA (Does your agency provide paratransit service outside the ¾ ADA mandated area?). Saved as OOSA Crosstabs.xlsx

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## Paratransit Peer Review

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Paratransit Peer Review

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**Independent Samples Test**
Paratransit Peer Review

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Paratransit Peer Review

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a. Banner 2: Fund_OOSA (Does your agency seek additional funding for OOSA?). Saved as Fund OOSA Crosstabs.xlsx

**Group Statistics**

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# Paratransit Peer Review

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Paratransit Peer Review

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**Independent Samples Test**

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## Paratransit Peer Review

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## Paratransit Peer Review

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Paratransit Peer Review

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39. Scatterplots: Using the Full Integrated V3 data, I created scatterplots with UPT as the y-axis on all scatterplots except as noted. The larger yellow marker represents RTC in the data set. Also note that subsequent charts with the same chart title represent the same data with a different scale to reveal the nuances in the chart.

**PHASE 7: INTEGRATION OF ADDITIONAL DATA**

1. Downloaded the National Transit Database time series tables by mode. This data includes up to 2017. However, to remain consistent with the data drawn from the National Transit Database 2016 Agency Profiles, we will use the 2016 data here, as well.
2. Next, the data was truncated to eliminate any unnecessary information including:
   a. All data before 2016
   b. All modes except demand response (DR)
   c. Agencies which discontinued demand response (DR) mode service
   d. Removed the column “Mode status” because all were “operating”
   e. Removed “2017 status” because all were “existing 2017”
   f. Removed the following columns because they are unnecessary for analysis:
      i. UZA population
      ii. UZA area square miles
      iii. UZA
      iv. UZA name
      v. Census year
      vi. Reporter type
      vii. Agency status (all listed as “Active”)
3. The next task included creating variable names to maintain a separation between DR-DO (Demand response, direct operated) and DR-PT (Demand response, purchased transportation). The variables in this new data set have the following names and descriptions:

<table>
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<th>Variable name</th>
<th>Description</th>
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<td>DR_PT_OpExVO</td>
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<td>DR_PT_OpExGA</td>
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<td>Demand response, direct operated</td>
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4. Four agencies had no input for the demand response service. Upon inspection, the following agencies had no data for the demand response/paratransit data set.

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<th>NTD number</th>
<th>Agency Name</th>
<th>Why was it missing from the DR set?</th>
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<td>10048</td>
<td>CT Department of Transportation CTTRANSIT Hartford Division</td>
<td>No DR, only modes MB and RB</td>
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<td>90136</td>
<td>Regional Public Transportation Authority DBA Valley Metro, Arizona</td>
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<td>90154</td>
<td>Los Angeles County Metropolitan Transportation Authority DBA Metro</td>
<td>DR was discontinued</td>
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</table>

5. The final clean file was saved as ReadyToMerge Para Data 2016.
6. The next step is to integrate this recent demand response data with the full data set developed earlier. This integration was performed in Microsoft Access.
7. The two files were successfully joined in Microsoft Access. The new integrated file is named FullWithParaIntegration.xlsx.
8. Min-max-average charts were created for all new variables.
9. Bar charts were created for each variable to compare the average of each variable across DR directly operated, DR purchased transportation, and the RTC amount for each variable.
10. Both the min-max-average and bar charts were saved in the file DESC CHARTS FullWithParaIntegration.xlsx.
11. Next, the data set will be separated in SPSS into OOSA-non-OOSA sets and reanalyzed. RTC was added for comparison. File name is “Para data separated into OOSA noOOSA.xlsx”. Data was cleaned and arranged to provide the following columns. “N” indicates the number of responses for the categories.
   a. N_NoOOSA
   b. Minimum_NoOOSA
   c. Maximum_NoOOSA
   d. Average_NoOOSA
   e. N_OOSA
   f. Minimum_OOSA
   g. Maximum_OOSA
   h. Average_OOSA
   i. RTC added for comparison
12. Next, the data set will be separated in SPSS into agencies seeking additional funding specifically for providing paratransit OOSA versus those who did not. RTC is added for comparison. File name is “Para data separated into FUND_OOSA noFUND_OOSA.xlsx”. “N” denotes the number of responses for the categories.
   a. N_N
   b. Minimum_N
c. Maximum_N
d. Mean_N
e. N_Y
f. Minimum_Y
g. Maximum_Y
h. Mean_Y
i. RTC added for comparison
APPENDICES

FULL LIST OF RESPONDENTS

AgencyName
Capital Metropolitan Transportation Authority
City of Tuscon
City of Detroit Department of Transportation
New Jersey Transit Corporation
Central Ohio Transit Authority
Los Angeles County Metropolitan Transportation Authority dba: Metro
San Diego Metropolitan Transit System
Pace - Suburban Bus Division
King County Department of Transportation
Metro Transit System
San Mateo County Transit District
Pioneer Valley Transit Authority
Metropolitan Atlanta Rapid Transit Authority
Dallas Area Rapid Transit
Rhode Island Public Transit Authority
City and County of Honolulu Department of Transportation Services
Orange County Transportation Authority
Connecticut Department of Transportation - CTTRANSIT - Hartford Division
Utah Transit Authority
VIA Metropolitan Transit
Transportation District Commission of Hampton Roads
Charlotte Area Transit System
Hillsborough Area Regional Transit Authority
Kansas City Area Transportation Authority
Broward County Transit Division
Washington Metropolitan Area Transit Authority
San Francisco Bay Area Rapid Transit District
RTS - Monroe County
Miami-Dade Transit
Tri-County Metropolitan Transportation District of Oregon
San Francisco Municipal Railway
Port Authority of Allegheny County
Jacksonville Transportation Authority
Bi-State Development Agency of the Missouri-Illinois Metropolitan District, d.b.a. (St. Louis) Metro
Denver Regional Transportation District
Regional Public Transportation Authority, dba: Valley Metro
Metropolitan Transit Authority of Harris County, Texas
Southeastern Pennsylvania Transportation Authority
MTA New York City Transit
Westchester County Bee-Line System
Capital District Transportation Authority
Santa Clara Valley Transportation Authority
Southwest Ohio Regional Transit Authority
Sacramento Regional Transit District
Milwaukee County Transit System
Regional Transportation Commission of Southern Nevada
City of Phoenix Public Transit Department dba Valley Metro
Central Puget Sound Regional Transit Authority
Niagara Frontier Transportation Authority
Central Florida Regional Transportation Authority
New Orleans Regional Transit Authority
Transit Authority of River City
INITIAL SURVEY INSTRUMENT

RTC of Southern Nevada Paratransit Survey Email Invitation

Hello <First Name> <Last Name>,

On behalf of the Regional Transportation Commission of Southern Nevada, thank you for your willingness to participate in this survey of the Top-75 Transit Agencies nationally. We appreciate you taking the time to provide your agency information about paratransit services provided with relation to the ADA paratransit service area. All responses will remain confidential and secure.

Our third-party contractor, Innovative Research & Analysis, has contracted with QuestionPro, an independent research firm, to field your confidential survey responses. Please click on this link to complete the survey:

<SURVEY_LINK>

Please contact Dr. Justin S Gardner by email at gardnerj@rtcsnv.com with any questions.

Thank You

RTC of Southern Nevada Paratransit Survey Introduction

1. Thank you for taking the time to complete the RTC Paratransit Survey. To facilitate survey completions, we have enabled the “Save and Continue Later” function, which can be done at any time during the survey. Additionally, we distributed a PDF and Word version of this survey a few days ago for review and preparation. While the PDF and Word versions provided the full survey instrument, this online survey has extensive skip logic and question branching, so your responses will determine the questions you’ll be asked.

In this survey, representatives of the Top-75 Transit Agencies nationally will be asked to answer questions about paratransit services provided by their agency. Your participation in this study is
Paratransit Peer Review

completely voluntary and there are no foreseeable risks associated with this project. As part of this project, we will provide a raw data PDF report of question-by-question analysis for any agency that completes the survey.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential. If you have questions at any time about the survey or the procedures, you may contact Dr. Justin S Gardner at 702-630-3255 or by email at gardnerj@rtcsnv.com.

Please start with the survey now by clicking on the Next button below.

2. Does your transit agency maintain paratransit service within the ¼ mile ADA mandated boundary?
   
   Yes (Q3), No (Q51)

3. What is the fare structure (cost to the customer per trip) to provide paratransit within the ¼ mile ADA service area? (Q4)
   
   Numeric Text Box

4. What is the average agency cost per passenger per trip to provide paratransit within the service area? (Q5)
   
   Numeric Text Box

5. What is your annual budget to provide paratransit services? (Q6)
   
   Numeric Text Box

6. What are the funding sources for the agency’s fixed and paratransit services? (Q7)
   
   Open Text Box

7. What percentage of the agency’s total transit budget is expended on paratransit services? (Q8)
   
   Percentage Slide 0-100%

8. Does your transit agency provide paratransit service outside the established ¼ mile boundary, Outside of Service Area (OOSA)?
   
   Yes (Q9), No (Q51)

9. What is the extended service area? (Q10)
   
   An additional ¼ mile or less, An additional ½ mile, An additional ¾ mile, An additional 1 mile or more

10. Is this extended service considered “paratransit” or a “premium” service?
Paratransit Peer Review

*Paratransit (Q15), Premium (Q11)*

11. How does your transit agency define premium services? *(Q12)*

   Open Text Box

12. What is the fare structure (cost to the customer per trip) to provide premium services OOSA? *(Q13)*

   Numeric Text Box

13. How many passengers utilize the extended service area on a monthly basis? *(Q14)*

   Numeric Text Box

14. What is your annual budget for premium OOSA? *(Q15)*

   Numeric Text Box

15. Do you pick up passengers OOSA as a means to access paratransit services within the service area?

   Yes *(Q16)*, No *(Q19)*

16. Please explain how your agency provides OOSA connections to paratransit services within the service area. *(Q17)*

   Open Text Box

17. What is the fare structure (cost to the customer per trip) to provide OOSA connections to paratransit services within the service area? *(Q18)*

   Numeric Text Box

18. What is your annual budget to provide OOSA connections to paratransit services within the service area? *(Q19)*

   Numeric Text Box

19. Do you pick up passengers OOSA as an ADA paratransit service?

   Yes *(Q20)*, No *(Q24)*

20. What model(s) does your agency use to provide OOSA ADA paratransit services? *(Q21)*

   Open Text Box

21. What is the fare structure (cost to the customer per trip) for OOSA ADA paratransit services? *(Q22)*

   Numeric Text Box

22. What is the average agency cost per passenger per trip OOSA? *(Q23)*

   Numeric Text Box
Paratransit Peer Review

23. What is your annual budget to provide OOSA ADA paratransit services? *(Q24)*
   *Numeric Text Box*

24. Were additional funding sources identified to provide service OOSA?  
   *Yes (Q25), No (Q28)*

25. What additional funding sources were identified? *(Q26)*  
   *Open Text*

26. What percentage of the total paratransit services budget is provided through these additional sources? *(Q27)*  
   *Percentage Slider 0-100%*

27. What percentage of the agency’s paratransit services would be unavailable without additional funding? *(Q28)*  
   *Percentage Slider 0-100%*

28. Do nonprofit partners assist in providing service OOSA?  
   *Yes (Q29), No (Q30)*

29. How do your nonprofit partners assist in providing services OOSA? *(Q30)*  
   *Open Text Box*

30. Does your transit agency partner with Transportation Network Companies [TNC] to provide service OOSA?  
   *Yes (31), No (Q37)*

31. Is there a cap on how many rides an individual customer may take OOSA per month from TNC service providers?  
   *Yes (Q32), No (Q33)*

32. What is the individual customer monthly TNC cap? *(Q33)*  
   *Open Text*

33. Does the OOSA paratransit or premium service provided by TNC operate on a reduced schedule such as hours of the day and or days per week?  
   *Yes (Q34), No (Q35)*

34. Please explain how TNC provided paratransit or premium services operate. *(Q35)*  
   *Open Text*

35. Are there capacity constraints and/or limitations on the number of trips your agency will provide through TNC service providers?
Paratransit Peer Review

Yes (Q36), No (Q37)

36. What capacity and/or limitations does your agency have on the number of TNC trips provided? (Q37)

Open Text Box

37. Does your transit agency partner with Taxi Companies to provide service OOSA?

Yes (Q38), No (Q44)

38. Is there a cap on how many rides an individual customer may take OOSA per month by Taxi Companies?

Yes (Q39), No (Q40)

39. What is the individual customer monthly Taxi Companies ride cap? (Q40)

Open Text

40. Does the OOSA paratransit or premium service provided by Taxi Companies operate on a reduced schedule such as hours of the day and or days per week?

Yes (Q41), No (Q42)

41. Please explain how Taxi Companies provided paratransit or premium services operate. (Q42)

Open Text

42. Are there capacity constraints and/or limitations on the number of trips your agency will provide through Taxi Companies?

Yes (Q43), No (Q44)

43. What capacity and/or limitations does your agency have on number of trips provided? (Q44)

Open Text Box

44. Are there other innovative and/or technology enhancements used by your agency to assist with providing service OOSA?

Yes (Q45), No (Q46)

45. What types of technology enhancements are used to provide services OOSA? (Q46)

Open Text Box

46. Does your agency also provide transportation services beyond fixed route to seniors and other passengers that are not paratransit eligible, either inside the ¾ mile ADA boundary or OOSA?

Yes (Q47), No (Q51)
47. What type of transportation services does your agency provide? (Q48)

Open Text Box

48. Please explain what passengers are eligible for these additional services? (Q49)

Open Text Box

49. What is the fare structure (cost to the customer per trip) for these additional services? (Q50)

Numeric Text Box

50. What is your annual budget to provide these additional services? (Q51)

Open Text Box

51. Please provide your contact information so we can follow up with any additional questions.

First and Last Name, Agency, Address, City, State, Zip Code, Phone, Email Address
NON-RESPONDENTS SURVEY INSTRUMENT

All non-responding agencies were contacted and asked to take a very brief non-respondent survey. 4 agencies filled out this survey to give the total 52 responses.

Brief Paratransit Agency Survey

Start of Block: Default Question Block

Q1 Does your agency provide Paratransit services?

☐ Yes, only within the ADA-mandated 3/4 mile range (1)

☐ Yes, beyond the ADA-mandated 3/4 mile range (2)

☐ No (3)

Skip To: End of Survey If Does your agency provide Paratransit services? = No

Skip To: End of Survey If Does your agency provide Paratransit services? = Yes, only within the ADA-mandated 3/4 mile range

End of Block: Default Question Block

Start of Block: Funding

Display This Question:

If Does your agency provide Paratransit services? = Yes, beyond the ADA-mandated 3/4 mile range

Q8 Please specify your funding sources for Paratransit service outside the ADA-mandated 3/4 mile range.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Paratransit Peer Review

End of Block: Funding

Start of Block: Budget

Display This Question:
If Does your agency provide Paratransit services? = Yes, beyond the ADA-mandated 3/4 mile range

Q12 What is your agency's annual budget to provide Paratransit service outside the ADA-mandated 3/4 mile range?


End of Block: Budget

Start of Block: TNCs

Q25 Does your transit agency partner with any taxi companies or transportation network companies (TNCs) to provide Paratransit service outside the ADA-mandated 3/4 mile range?

☐ Yes (4)

☐ No (5)

Skip To: End of Survey If Does your transit agency partner with any taxi companies or transportation network companies (TNCs) to provide Paratransit service outside the ADA-mandated 3/4 mile range? = No
Q26 Which of the following service options are available through this partnership with taxi companies or TNCs? Please answer only for options used by Paratransit-eligible customers outside the ADA-mandated 3/4 mile range. Select all that apply.

- Door-to-door (1)
- On-demand (2)
- Same-day (3)
- Connections to inside Paratransit service area (4)
- Other connections (5)
- None of these (6)
- Other (7)

Q27 What is the fare per ride for $\{Q26/ChoiceDescription/4\}$?

Page Break

Display This Question:

If Which of the following service options are available through this partnership with taxi companies... = Connections to inside Paratransit service area

Display This Question:

If Does your transit agency partner with any taxi companies or transportation network companies (TNC... = Yes
Q28 Are there any funding sources used specifically for these partnerships?

- Yes (1)
- No (2)

---

Display This Question:

*If Are there any funding sources used specifically for these partnerships? = Yes*

Q29 What are these specific funding sources?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

End of Block: TNCs
<table>
<thead>
<tr>
<th>Name</th>
<th>Aaron Vogel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>Santa Clara Valley Transportation Authority</td>
</tr>
<tr>
<td>Call date</td>
<td>8/15/18</td>
</tr>
<tr>
<td>Call time</td>
<td>2:30 pm PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>408-321-7024</td>
</tr>
<tr>
<td><strong>Annual paratransit budget (CC)</strong></td>
<td>$23,000,000</td>
</tr>
<tr>
<td><strong>Paratransit funding sources (CD)</strong></td>
<td>Local 75%: sales tax; problem with this funding source is that it keeps going down due to increased e-commerce spending</td>
</tr>
<tr>
<td></td>
<td>fares 5%</td>
</tr>
<tr>
<td></td>
<td>state and federal 20%: 5307 and 5310; Lifeline Funds for Congestion management can be used for expansion of Paratransit service out of service area; a part of 5310 funding</td>
</tr>
<tr>
<td><strong>OOSA budget (CL)</strong></td>
<td>Not separated from Paratransit funding</td>
</tr>
<tr>
<td><strong>OOSA funding sources (CV, CW)</strong></td>
<td>No additional funding sources</td>
</tr>
<tr>
<td><strong>TNC (DB)</strong></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Currently has a TNC pilot</td>
</tr>
<tr>
<td></td>
<td>Called Riders Choice program</td>
</tr>
<tr>
<td></td>
<td>Opt-in, same day service at $4 per ride</td>
</tr>
<tr>
<td></td>
<td>Can do a 2 hour advance plan for a ride</td>
</tr>
<tr>
<td></td>
<td>Uber, local wheel-chair accessible taxi service, or on-demand transit option</td>
</tr>
<tr>
<td></td>
<td>Getting WAVE soon</td>
</tr>
<tr>
<td></td>
<td>The TNC options are currently cheaper than the paratransit service: paratransit rides cost the agency $36 per ride; while the wheelchair accessible taxi service costs $17 per ride, contracted</td>
</tr>
<tr>
<td></td>
<td>One of the problems is that they are taking dollars from the regular paratransit budget to fund the TNC pilot</td>
</tr>
<tr>
<td>Other notes</td>
<td>●</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Art Jackson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>Metropolitan Transit Authority of Harris County, Texas</td>
</tr>
<tr>
<td>Call date</td>
<td>8/14/18</td>
</tr>
<tr>
<td>Call time</td>
<td>11:00 am PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>1-888-270-9936</td>
</tr>
<tr>
<td>Access code:</td>
<td>9212734#</td>
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</table>

<table>
<thead>
<tr>
<th>Annual paratransit budget</th>
<th>$58,093,195</th>
</tr>
</thead>
</table>

| Paratransit funding sources | ● 1 cent local sales tax; by city council, was reduced from 1 cent to 0.75 cent (85% of revenue)  
● Fare box (10-12%)  
● The sales tax is authority wide  
● Other grants, grant division that is continuously seeking grant funding opportunities |
| --- | --- |

<table>
<thead>
<tr>
<th>OOSA budget</th>
<th>Wrote N/A (don’t separate out their OOSA)</th>
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</table>

<table>
<thead>
<tr>
<th>OOSA funding sources</th>
<th>Wrote no additional funding sources for OOSA</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TNC</th>
<th>N/A</th>
</tr>
</thead>
</table>

| Other notes | ● Extended or premium area: 251 square miles, since 1999; thought eventually we’d be in these areas for fixed route  
● Couple of years ago, thought about shrinking the Paratransit service area, we didn’t shrink, but doubled the fare in those areas  
● Can’t use passes in those out of service area  
● Paratransit will provide connections to fixed route, park and rides, and train service for free |
| --- | --- |
Paratransit Peer Review

<table>
<thead>
<tr>
<th>Name</th>
<th>Martin Moore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call date</td>
<td>8/13/18</td>
</tr>
<tr>
<td>Call time</td>
<td>10:30 am PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>248-390-8692</td>
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</table>

<table>
<thead>
<tr>
<th>Annual paratransit budget</th>
<th>$7.6 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>OOSA budget</td>
<td>Note separate</td>
</tr>
</tbody>
</table>

| OOSA funding sources       | ● Special funding source for Paratransit OOSA: New Freedom Grant. Still New Freedom grant money in the bank, is being used to fund Paratransit OOSA  
                             | ● Will continue using the New Freedom Grant funds until they run out, expected in fall 2019  
                             | ● No funding sources have been identified for funding the Paratransit OOSA after fall 2019  
                             | ● City general funds are used to fund the within-service-area Paratransit |

| TNC                       | Not applicable |

| Other notes               | ● They see Paratransit OOSA as a stop-gap service (not sure if that's the word) or temporary service per passenger: expect that the passenger will be rehabilitated or employed out of needing Paratransit OOSA. |
Very interested in the findings of the survey since they need to start looking for additional funding sources as soon as possible since their funding is empty in about 1 calendar year.

<table>
<thead>
<tr>
<th>Name</th>
<th>Christopher Hawkins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call date</td>
<td>8/13/18</td>
</tr>
<tr>
<td>Call time</td>
<td>12:30 pm PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>602-534-8303</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual paratransit budget</th>
<th>$26.7 million</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Texas charges a 6.25% state sales tax</td>
</tr>
<tr>
<td></td>
<td>2% of that tax goes back to the cities</td>
</tr>
<tr>
<td></td>
<td>Our member cities voted to give 1% (half the tax that goes to cities from state sales tax) for transit budgets</td>
</tr>
<tr>
<td></td>
<td>While DART at one time issued debt backed by the 1% sales tax revenue, the Paratransit is fully funded by the 1% state sales tax distributed by its member cities</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>OOSA budget</th>
<th>Not separate</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OOSA funding sources</th>
<th>Agency funded by 1% sales tax by 13 member cities.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TNC</th>
<th>Started Lyft pilot in May 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>About 100 riders approved to initiate the pilot study</td>
</tr>
<tr>
<td></td>
<td>About 100 rides now on the waiting list to participate</td>
</tr>
<tr>
<td></td>
<td>June 2018: about 4,800 Lyft trips</td>
</tr>
<tr>
<td></td>
<td>Total trips since pilot began: 63,550 trips (about 7.5% of all trips are now on the Lyft pilot</td>
</tr>
<tr>
<td></td>
<td>Works with a contractor which acts as the middle-man between the DART and Lyft</td>
</tr>
<tr>
<td></td>
<td>Service is not all service provided by Paratransit because Lyft doesn’t comply with FTA requirements for ADA ride (background checks, drug testing, etc.)</td>
</tr>
<tr>
<td></td>
<td>Riders best suited for Lyft rides are visual impairments and mobility impairments with easy-to-store mobility aids (cane, walker, etc.)</td>
</tr>
</tbody>
</table>
● Are putting out a permanent contract RFP in September 2018, want to roll out this service to all Paratransit customers
● Have run into some technical issues, primarily that when a customer calls the customer service to request the Lyft ride, a customer service agent manually requests the Lyft ride when it is time for the vehicle. This created problems with redundant vehicles, no vehicle, timing problems, etc. So now the contractor has dedicated to fixing this technical problem and making it automatic instead of manual; this is still in process, however.
● Brokerage model for TNC rides: uses a contractor and pays per trip or hour: currently the agency pays about $32 per trip for paratransit customers. For the longer-term (non-pilot) contractor, agency wants to incentivize good service and efforts to save the agency money; may provide some disincentives; may propose some level of risk-sharing; not sure yet
● The government could complicate the entire TNC idea by requiring FTA regulation compliance by drivers and companies performing these services; currently not the case as long as the ride is not called an ADA ride such as wheelchair accessible (very few of these), drug testing, or driver testing, etc.)
● We don’t see this having bigger budget impacts than a forecasted 3.5% increase in annual ridership. If we see that something is changing in an unexpected way, we approach the board and can make changes and go back to the bargaining table
● Contracts with contractors almost always have a +15% clause where any changes in volume beyond those amounts allows us to renegotiate

Other notes
● Valley Metro operates much like RTC in that they provide paratransit service for several cities

Questions for RTC
● When customers use Lyft, how does the information and money flow from RTC to Lyft?

Name
Amy Hockman

Agency
Central Ohio Transit Authority
<table>
<thead>
<tr>
<th>Call date</th>
<th>8/15/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call time</td>
<td>11:00 am PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>614-275-5821</td>
</tr>
<tr>
<td>Annual paratransit budget (CC)</td>
<td>$9,000,000</td>
</tr>
</tbody>
</table>

**Paratransit funding sources (CD)**

- 0.25% permanent and 0.25% renewable sales tax
  - Local, state, etc. sales tax? Local, county within Franklin county incorporates Columbus, so .25% sales tax of any consumer goods bought and sold within the county
  - On all consumer goods
  - Fares on Paratransit go into COTA as a whole for funding
  - 230–300 square miles; goes down into Franklin County, Ohio
  - The renewable sales tax is a ballot initiative
  - 80% of all funding from tax

- State operating grants
  - Details on the types of grants available?
  - Mixed up
  - Have grant department that works on this

- Federal operating grants
  - Details on the type of grants available?
  - 5310
  - 5307
  - Other various, grant department works on this

- What about capital funding?
  - Sources not separate; don’t separate our capital funding from operational funding
  - We typically put our budget from department in terms of operations and then capital needs
  - We already have in our short-range plan and long-range plan for our authority, mapped out in terms of vehicles

- All funding goes into a big pot for the transit authority
- Has grant administrator

<table>
<thead>
<tr>
<th>OOSA budget (CL)</th>
<th>$250,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>OOSA funding sources (CV, CW)</td>
<td>No additional funding sources for OOSA</td>
</tr>
</tbody>
</table>
**Paratransit Peer Review**

| OOSA general notes | • OOSA service: called non-ADA service, based on space availability;  
|                    | • sales tax helps us add that bit of non-ADA service.  
|                    | • We operate 1000 trips per day (all services), so 10% of annual budgeted # of trips for the non-ADA trips.  
|                    | • Once we reach that threshold, we don’t have space available for non-ADA.  
|                    | • No regulation in terms of non-ADA trips; so we can cap those. |

| TNC | • Don’t have a TNC program currently but are investigating the financial impact of implementing TNC partnership. Is aware of a company called UServe that works in the Richmond area and other areas on the East Coast. Has an app, works in place of Uber or Lyft. Customer service/ satisfaction is very high.  
|     | • May entertain using TNCs for other first- last-mile other than Paratransit, also for fixed route to promote ridership. |

| Other notes |

<table>
<thead>
<tr>
<th>Name</th>
<th>Jennifer Lugo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call date</td>
<td>8/13/18</td>
</tr>
<tr>
<td>Call time</td>
<td>11:30 am PT</td>
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<tr>
<td>Phone number</td>
<td>602-534-8303</td>
</tr>
<tr>
<td>Annual paratransit budget</td>
<td>$16 million</td>
</tr>
<tr>
<td>OOSA budget</td>
<td>Not separate</td>
</tr>
</tbody>
</table>

| OOSA funding sources | • No additional funding sources for OOSA  
|                      | • Funding sources for OOSA are the same as funding sources for general Paratransit  
|                      | • City defined the service area beyond the ¾ mile required by ADA, but it’s typically no more than 1 mile in addition to the ¾ mile requirement; beyond that ¾ mile |
- All paratransit is funded by state sales tax, lottery tax to be specific
- The state lottery sales tax is distributed to each AZ city by population, so Phoenix receives the largest portion
- From this state lottery sales tax, Phoenix receives and uses $16 million per year for all Paratransit services
- The fixed route is funded through a local sales tax, was extended to 2050
- The regional paratransit is also funded through the state lottery tax

TNC | Not applicable
---|---

**Other notes**
- Valley Metro operates much like RTC in that they provide paratransit service for several cities

<table>
<thead>
<tr>
<th>Name</th>
<th>Krystal Oldread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agency</td>
<td>Pioneer Valley Transit Authority</td>
</tr>
<tr>
<td>Call date</td>
<td>8/15/18</td>
</tr>
<tr>
<td>Call time</td>
<td>12:00 pm PT</td>
</tr>
<tr>
<td>Phone number</td>
<td>413-732-6248</td>
</tr>
</tbody>
</table>

**Annual paratransit budget (CC)**
- $9,205,438 FY 18
- our annual budget including admin, operations and maintenance
- For FY19 the cost is going to rise to $10,362,709 because we are switching operators.

**Paratransit funding sources (CD)**
- Operating
  - 5307 (we flex it over),
  - local match,
    - Towns are assessed a fee based on fixed route site side; based on state legislation
  - state money, general funding from the state
Paratransit Peer Review

| o about half our operating budget is state funding |
| o fares, (recently fare increase) about 16% covers revenue and |
| o advertisement (2% of budget) |
| o 14% federal funds |
| o 49% state contract assistance |
| o 19% from our member communities. |

**Capital**

| o section 5310 and |
| o MAP grants from the state |
| o 5307 with state match. |

| OOSA budget (CL) | What is your budget for out of service area? Do you separate that out at all? |
| OOSA funding sources (CV, CW) | No additional funding sources for OOSA |

| TNC | N/A |

| Other notes | Had budget reductions for the past two years and has cut service |
| | Outside the service area fare is $5 which can be about twice the within service area fare (depends on # of transfers) |
| | Changing contractors for OOSA service this FY, just started in June 2018 |

| Name | Tina Dubost |
| Agency | San Mateo County Transit District |
| Call date | 8/14/18 |
| Call time | 10:30 am PT |
| Phone number | 650-508-6247 |

| Annual paratransit budget | $18,908,000 |
### Paratransit funding sources

- County sales tax,
- Transit District sales tax,
- Interest from paratransit trust fund,
- Transportation Development Act funds (California-based program), 0.25 cent sales tax used for transportation; can be used for transit or streets and roads infrastructure
- motor vehicle registration fees,
- Operating grants,
- passenger fares: about 5% of budget revenue
- Measure A: Sales tax passed for transportation; we had it and then renewed it; set up Paratransit trust fund (way before ADA), set up trust fund and interest rates were higher—it does fund some. Renew Measure A and now Paratransit gets a certain % that goes to Paratransit
- San Mateo county had passed additional tax used for miscellaneous things in the county; we applied for $5 million initially, and we used it for Samtrans to offset bond costs we had with another transit agency;
- Grants department going after a variety of grants; operating grants from federal level and some state
- Some money from clean air vehicles
- Some funds are used to run shuttles to commuter rail for example
- Low income fare: don’t recommend,
- State gas tax: may be repealed by ballot this year; Senate Bill 1.
- Miscellaneous revenue: advertising revenue, we don’t have advertisement on paratransit
- Are proposing a transportation sales tax this fall

### OOSA budget

Doesn’t separate from paratransit budget

### OOSA funding sources

Doesn’t separate from paratransit budget

### TNC

N/A

### Other notes

- VTA access in San Jose has been doing cash-free at farebox for many years
Dr. Heather Monteiro founded Hickory Ridge Group LLC (“HRG”) in June, 2016. Leading up to the founding, she taught Logistics, Marketing, and Supply Chain Management at the university level. HRG conducts research for multiple industries including transportation, both freight and transit, marketing, consumer behavior, and economic development. This work has included both private and public sector projects such as benefit cost analysis, economic impact analysis, and customer/ passenger studies.