# Access Link Appointment Times Adoption Study

**Research Idea/Need**

A study is needed to identify estimated operational impacts and associated costs of adding a requested appointment (or "drop-off") time feature to the reservation process of Access Link, NJ TRANSIT's statewide, ADA complementary paratransit service for eligible customers with disabilities. Access Link's current reservation process is based on the pick-up time requested by (and negotiated with) the individual customer, which the Access Link scheduling software then utilizes to plan service delivery (also using ride duration parameters) and to measure on-time performance.  It is envisioned that adding an additional reservations component to ensure drop-offs are made by a specified time included in some or most reservations will limit existing ride-sharing opportunities and translate to additional resources needed to operate the service. Other paratransit services may already incorporate this feature.  However, since such would mean a transition for Access Link, a study is needed to identify the impacts of this change and the associated costs (quantified where possible) which would ensue.

**Description of the Research**

The first phase of this project, Access Link Appointment Times Adoption Study, will consist of seven major tasks.  The project will start with initial data gathering and a review of regulatory requirements. The next task will include a review of Access Link current operations and research on industry standards and best practices at other transit agencies. Goals will be developed, and a report will be prepared summarizing the findings from the initial research.  Based on the initial research findings, a pilot will be conducted using sample trip data and the results will be evaluated. Key performance indicators will be identified and the impacts to service and risks will be evaluated. A business needs analysis will be conducted, and implementation and integration plans will be developed. The project findings will be detailed in a final report and an initial business case will be prepared.  The above is a general description of suggested elements of this project.  A proposer is permitted to deviate from these elements, with supporting justification. A brief description of future phases of this project is included at the end of the next section.

**Major Tasks of the Project**

Task 1: Data Collection and Regulatory Review
In the data collection task, the Research Team will obtain information and data needed from NJ TRANSIT or other sources to perform the project. The team will also conduct a regulatory review to obtain information and an understanding of all applicable requirements, to include FTA, NJ TRANSIT and current customer and applicable policies.

Task 2: Best Practices Review and Goal Benchmarking
A review of current operations and service areas will be conducted to obtain information and detail necessary to understand current policies, procedures, and the context of the problem statement.

An inventory of industry standards and practices will also be conducted. As part of this effort, the Research team will survey comparable services at other transit agencies, to provide perspective on relevant areas, including:

- Integration of requested pick-up times and/or appointment times;
- On-time performance metrics for either both, including how OTP rates are calculated, and what the OTP performance rates are;
- percentages of trips scheduled according to requested pick-up time;
- percentages of trips scheduled according to desired arrival/appointment times; and
- Experiences and impacts from any agencies whose service completed a transition to implement a "drop off by requirement" which was not in place initially

Task 3: Goal Development and Benchmarking

This task involves the development of a Peer Review report describing the work conducted and results.  This will include detail on impacts of comparable transitions at other agencies, perspective, identification of any "best practices" and recommendations to NJ TRANSIT.

Task 4: Emerging Opportunities and Challenges

The Research Team will conduct ridership data testing. This will involve conducting batch scheduling of a sample of trips without appointment times with an adjusted parameter set for a scenario where the outbound trips in the sample do have appointment times.  Results can be measured to determine key differences - in revenue service hours and resources (vehicles/drivers etc.) needed.

To this end, NJ TRANSIT will offer the following:

- Trip data requested for analysis, with any customer-identifying data removed.
- Virtual use of a Trapeze PASS workstation utilizing a testing environment in which the proposer can perform any required data manipulations (e.g., entries of appointment times).
- Assistance in completing batch scheduling jobs, to generate revenue service routes based on manipulated trips
- Reporting capabilities to summarize batch scheduling results, to include revenue hours, vehicles/drivers needed, and on-time performance.
- Additional information available and necessary to perform cost estimates.

The Research Team will Incorporation of the results into resource estimations (descriptions and costs) and extrapolate the testing results:  This will involve extrapolating the testing results to generate expected service cost impacts, considering the key service cost drivers that may be affected, e.g.;

- Vehicles
- Vehicle operators (drivers)
- Other staff
- Facility provisions
- Other items

This phase must also incorporate estimates regarding elasticity.  Since the addition of appointment times and "drop off by" provisions may attract additional ridership levels, estimates must also quantify this expected impact.  While Access Link ridership traditionally grows each year, this phase shall

generate any additional impact and estimated costs of this specific feature separate from other costs related to forecasted growth.

Task 5: Performance and Planning for Service Impacts
Key performance indicators will be identified, and key performance measurement indicators or metrics will be defined. A service impact analysis/risk evaluation will be conducted to Indicate expected impacts on each indicator. Multiple scenarios, as appropriate, will be provided.

The research team will identify and provide descriptions of:
- o Risks
- o Recommendations for mitigations
- o Anticipated costs
- o Any associated benefits

Task 6: Business Needs Analysis for Implementation
Identify and describe (with quantification where possible) the specific business/operational needs for implementing recommended scenario(s).

An Implementation and Integration Plan will be developed that includes a timeline that indicates the required action items, test phases, decision points and timeframes.  It will also incorporate any items necessary for checks and balances.

Task 7: Final Report and Initial Business Case
The final report will include:
- o Summary of work completed
- o Relevant best practices
- o Recommendations and business case
- o Key risks and associated mitigations
- o Anticipated costs
- o Timeframe for implementation
- o Monitoring protocols for achieving success
- o An Executive Summary

The final report will also include a table of any references with contact information who assisted in this project and any data collected during the course of the project will be provided.