



Short Range Truck Traffic Study For the Airport West Area

Executive Summary



Background

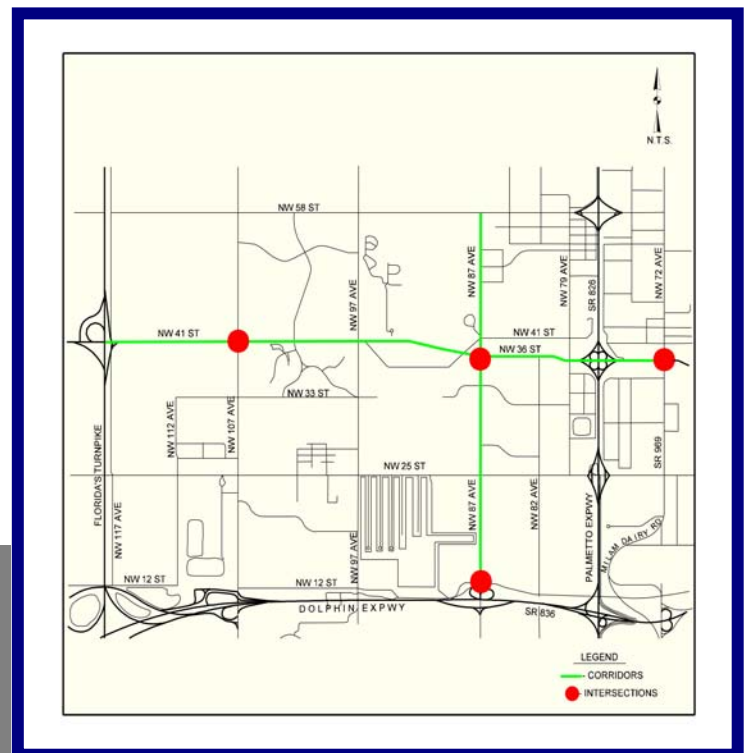
The Miami-Dade Metropolitan Planning Organization (MPO) commissioned a study of the roadways west of the Miami International Airport (MIA). This area is generally known as the Airport West Area (AWA). The roads in the AWA experience higher percentages of heavy truck traffic than other areas of the County. This study considered the AWA as a case study for future implementation of truck design standards that may be applicable to roadways that are heavily traveled by trucks. Additionally, area and corridor improvements have been recommended.

Objective

Develop a set of standards and an implementation plan to better accommodate truck traffic and commercial truckers' needs in the Airport West Area.

This study is oriented towards developing recommendations for alleviating localized truck movement problems within the AWA. The AWA as defined for this study is the area generally bounded by NW 58th Street on the north and SR 836 on the south, and runs from NW 72nd Avenue (Milam Dairy Road) on the east to the Turnpike (HEFT) on the west, an area of some 13 square miles. (See Exhibit 1).

Exhibit 1



A Study Advisory Committee (SAC) was established which included representatives from Airport West Transportation

Management Initiative (AWTMI), the MPO, and the consultant team. The SAC assisted in the development of the questionnaire used to obtain user data regarding types and locations of travel problems in the study area, as well as helping coordinate, disseminate, and monitor the survey.

Research and Findings

An AWTMI contacts census was conducted of truck drivers and businesses with the help and guidance of the Airport West Transportation Management Initiative (AWTMI) along with the South Florida Commuter Services and assistance from the AWA South Florida Commuter Services (SFCS) representative. The survey helped to identify freight movement characteristics such as:

routes, service hours, type of goods transported within the area, truck specifications, and to determine additional freight movement and transportation system deficiencies in the area.

The survey consisted of eight questions. Presented below are the main points inquired about for each question, followed by the most commonly received responses for each question, listed in descending order of frequency:

1. The worst AWA problem (for *driver*)?

- Congestion.....52%
- Getting through intersections.....28%
- Sharing the road with large trucks...11%
- Others.....9%

2. The worst AWA problem (for *business*)?

- Congestion55%
- Rush hour deliveries.....20%
- Turning radius for truck.....12%
- Others.....13%

3. When businesses most use or most need to access to/from roads for shipments/deliveries?

- Mid-afternoon.....29%
- Afternoon rush hours.....27%
- Mid-morning.....22%
- Others.....22%

4. What types of truck does your business use?

- Delivery vans.....33%
- Medium straight trucks(6 wheels)....17%
- Tractors, Semi-Trailers-Single.....17%
- Light straight trucks (4 wheels).....17%
- Others.....16%

5. The type of business conducted by your firm.

- Wholesale26%
- Freight forwarding.....14%
- Local distribution.....12%
- Others.....48%

Data Collection and Analysis

In consultation with SAC, two corridors, one north-south, and one east-west, along with four intersections, were chosen for detailed traffic data collection. The corridors selected were:

- **NW 36th/41st Street** between the Florida Turnpike and NW 72nd Avenue
- **NW 87th Avenue** between NW 12th Street and NW 58th Street

The four intersections selected were:

- **NW 36 Street and NW 72 Avenue**
- **NW 36 Street and NW 87 Avenue**
- **NW 41 Street and NW 107 Avenue**
- **NW 12 Street and NW 87 Avenue**

These corridors and intersections chosen for further analysis are shown in Exhibit 1.

Turning movement counts were obtained for the four intersections and a level of service analysis was conducted. This analysis was used to establish the existing capacity of the study intersections, the intersections' operational characteristics, and to identify problems and deficiencies. The two selected corridors were observed for operational characteristics, traffic patterns, truck volume and to characterize the spacing between driveways.

Right-of-way is not available to widen the major study area corridors and intersection. Without widening, traffic will continue to experience low levels of service.

However, a recommended improvement for the intersections specifically investigated is to adjust the timing of the signals. Signal retiming will result in significant reductions in delay.

Another recommendation is to evaluate the number of median openings along the two study corridors. Prohibiting turning movements in some intersections (signalized or unsignalized), and revising the typical designs, along with reducing the frequency of median openings have demonstrated to reduce crashes and alleviate congestions.

Design Standards

As part of this study, a set of suggested standards were developed for roadways in the AWA. The suggested standards include typical roadway segments and intersections, typical turn lane requirements, driveway spacing, and types of access to driveways, and cul-de-sacs. These standards were developed mainly to improve the maneuverability of trucks in the area.

Another concern was to maintain at least one travel lane open for emergency stopping and/or disable vehicles. To accomplish this, the standards recommends that six-foot paved shoulders are to be incorporated into

ROW purchases, integrated into initial future roadway designs, and subsequently constructed on all two-lane, two-way roadways. Four-lane and six-lane roads should be accommodated with a 14-foot curb (outside) lane.

All suggested standards are based on criteria in publications by the Miami-Dade County Public Works Department, FDOT, and the American Association of State Highway and Transportation Officials (AASHTO).

Transferable Solutions

The continuing growth of AWA, resulting in the now built-up nature of the area, provides only limited opportunities for the expansion of the right-of-way needed to apply the recommended, revised standards and to implement some of the recommended improvements. The following is a list of alternative solutions that will help alleviate the most common congestion problems in the AWA.

Short Term Solutions

Intersection Improvements: a series of treatments directed towards improving traffic flow at intersections.

For Example:

- Traffic signs
- Changes in geometric design
- Turning lanes
- Acceleration/Deceleration lanes
- Traffic islands
- Grade separation

Operational Improvements:

- **Elimination and Relocation of Traffic Signals** – evaluate traffic signal operation by corridor to determine the need of existing signals
- **Restriction on Turning Movements** – prohibiting turning movements in some intersections thereby eliminating conflicts
- **Access Management** – this program is directed to manage accessibility to arterials in order to improve average travel speed and capacity
- **Incident Management** – this program monitor traffic flow and detect incidents and crashes along the roadway network
- **Signal Re-timing** – improvements to signalized intersections by revising the signal phases

Travel Behavior Change Improvements:

- **Ridesharing** – a vehicle shared by several person for trips to and from work; implement additional carpools and/or vanpools from employers or groups of employers in the AWA.

- **Shuttle Service** – bus or van service that provides transportation between the company’s site to a transportation facility. The “*Miami Service Shuttle Report*” prepared by the MPO made recommendations for implementing a shuttle system servicing the Airport West Area.
- **Preferential Parking** – employers provide preferential parking spaces and treatments for car pool and vanpool vehicles –for example, reduced rates and/or providing spaces nearer to building access points or elevators in garages.
- **Alternative Work Hours** – this solution spreads the demand for travel at peak periods by allowing or even encouraging workers to begin and leave early before the worst of rush hour traffic, or begin and end later, or even by working 4/10 hour days and not commuting altogether one day a week.
- **Telecommuting** – employees are allowed to work from home, or a closer-to-home specially-equipped remote site using computers and phone lines.

Long Term Solutions

- **Road Building / Extension** – fundamental method for adding transportation system connectivity and capacity; normally applied as first course of action over the past century throughout the US and the world; while system attributes may be enhanced, this approach virtually always serves to open new areas to either new development of more intense development, and eventually acts as a catalyst for adding traffic to roadway systems.

- **Road Widening** – traditional largely uncontroversial method normally applied to improve capacity and vehicle throughput where right-of-way availability permits; improves traffic flow by increasing the width of an existing lane or by adding new lanes. The Long Range Transportation Plan (LRTP) lists the following road widening project within the study limits:
 - * Widen NW 58 Street from NW 102 Avenue to NW 107 Avenue from 4 to 6 lanes
 - * Widen NW 87 Avenue from NW 36 Street to 58 Street from 4 to 6 lanes
 - * Widen NW 107 Avenue from NW 41 Street to 25 Street from 4 to 6 lanes
 - * Widen NW 36/41 Street from NW 42 Avenue to HEFT from 4 to 6 lanes
 - * New express street, also known as a “super arterial”, to include select intersection and segment grade separations, coalescing of driveway openings, reduced side street access points, and ITS improvements.

Operational Improvements:

- Institute programs of expanded regular periodic traffic counting throughout the AWA, and follow up with expanded, regular programs of signal retiming.
- Implement a computer-driven traffic counting and signal synchronization optimization program for application to signalized AWA intersections.

Travel Behavior Change Improvements:

- Develop and implement an Airport West Trip Reduction Ordinance (TRO). TRO’s revised commuting approaches that constrain the use of single occupant vehicles in certain areas at certain times.

Implementation Plan

An increase in capacity of the corridors and intersections within the AWA may be achieved by implementing the following recommendations:

- * Revising design standards
- * Traffic operation improvements, and
- * ITS improvements.

The implementation of these recommendations can also lead to a fewer number of crashes and an improvement in truck mobility, movements, and maneuverability.

The proposed implementation plan consist of evaluating corridors within the AWA based on the following criteria:

- **Truck traffic and freight movement**
- **Congestion**
- **Connectivity**
- **Safety**
- **Availability of Right-of-Way**

Corridors that qualify for improvements should next be prioritized prior to detailed evaluation. Priority should be given to corridors that have high percentage of trucks and provide connectivity between two important locations. The next priority should be given to corridors that have a congestion problem. The improvements should then be categorized to find the most cost effective way to plan, design and construct the improvements. Area-wide improvements such as the design standards should be prioritized by the AWTMI in conjunction with the MPO. Funding is an absolutely critical element to consider even before implementing any transportation improvement project. There are limited funds for developing and implementing projects, and there is therefore a need to determine which improvements are most

cost effective and should receive higher priority.

This implementation plan recommends that improvements from the Short-term solutions list be advanced by the use of FDOT's Push Button contracts or following the procedure outline in the Low Cost Improvement Program for Resourceful Use of Streets and Highway (RUSH). FDOT Push Button contracts apply mainly to corridors or locations that are experiencing safety problems. The Miami Dade County Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the FDOT Work Program for Transportation (UPWP), will be the mechanisms to initiate the implementation of long-term improvements.



David Plummer & Associates
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