

# Adding Turbo Lanes to T-intersections Study

**Transportation  
Planning Council  
May 5, 2010**



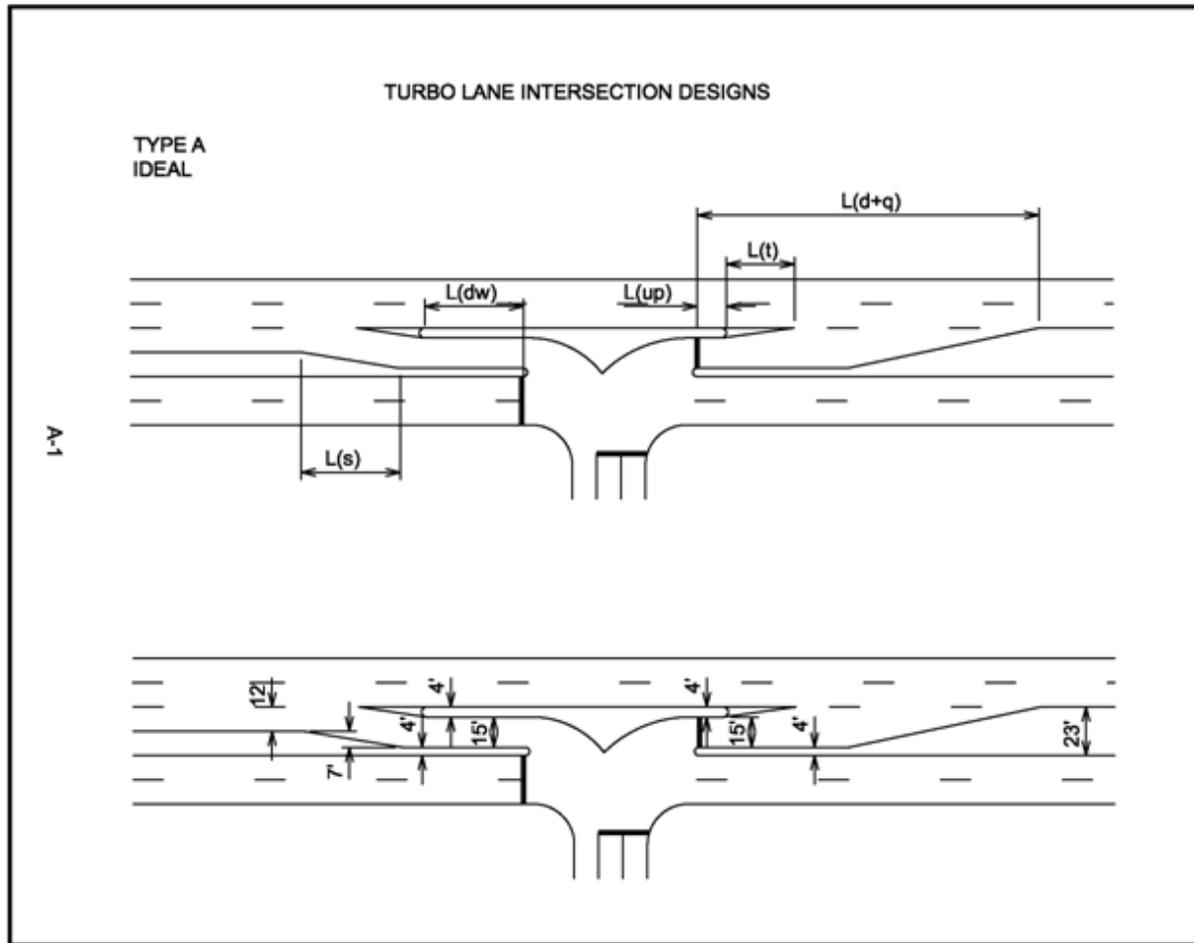
# Turbo Lanes

- Signalized T-Intersection
- Special Traffic Lanes Configuration
- Special Signal Operation
- One (or More) Lanes on Main Street  
Flow Continuously
- Actuated Pedestrian Signals When  
Needed

# Suitability Factors

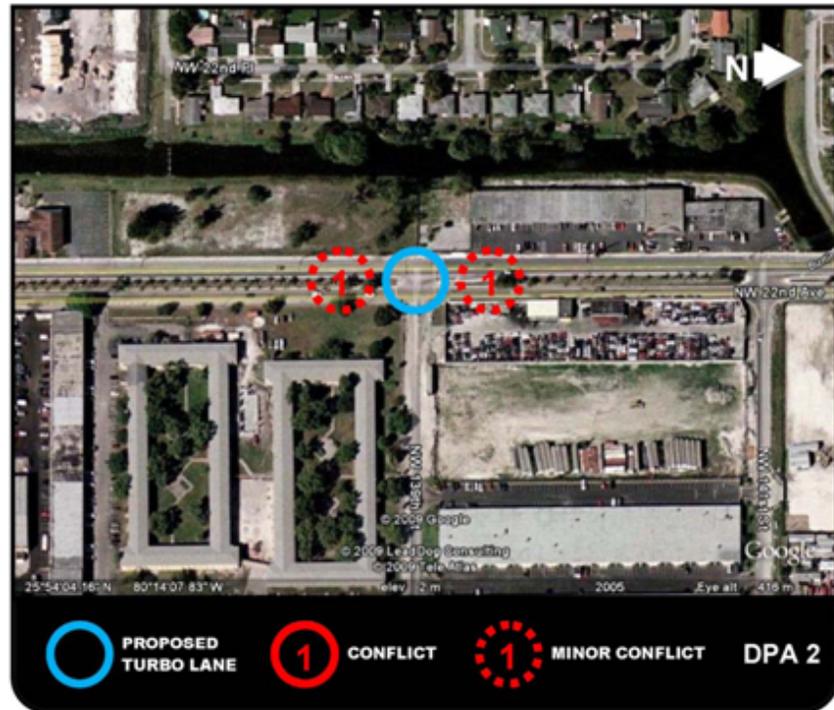
- Nearby Driveways/Streets
- Proximity of Other Signals
- Dual Left Turns
- Number of Lanes on Main Street
- Median

# Concept Design Parameters



## Location Screening

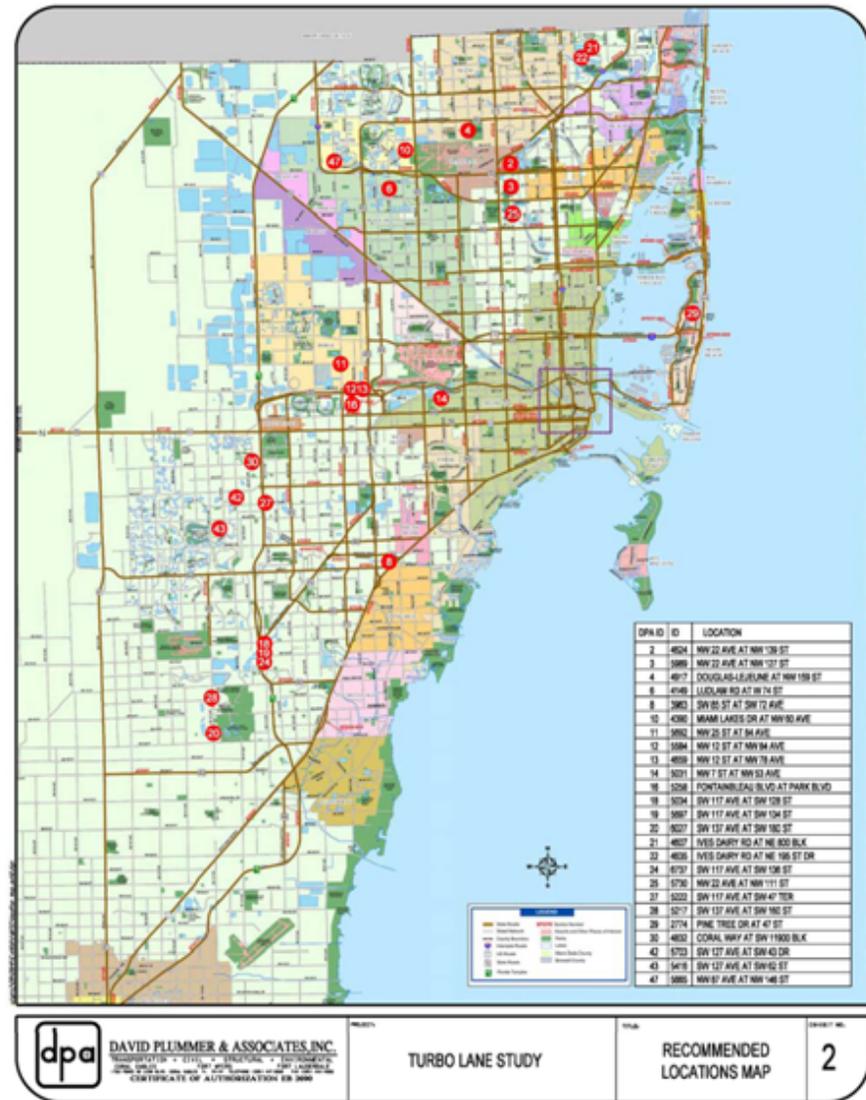
DPA ID:	2
MD ID:	4624
Location:	NW 22 Ave @ NW 139 St
Turbo Lane Direction:	SB
Recommendation:	MD turbo lane type A
Conflict:	NA
Minor Conflict:	1. Parking lanes
Existing Ped. Crossing	Yes
Proposed Ped. Phase	Yes
Special Features:	NA
Comments:	NA



# Study Coordination

- MD Public Works Department
  - Meeting: August 26, 2009
  - Prelim. Recommendations Report (8/09)
  - Draft Final Report Review (3/10)
- Transp. Planning Tech. Advisory Committee (4/7/10)
- Citizens Transportation Advisory Committee (4/28/10)

# Recommended Turbo Lanes 25 Locations Map



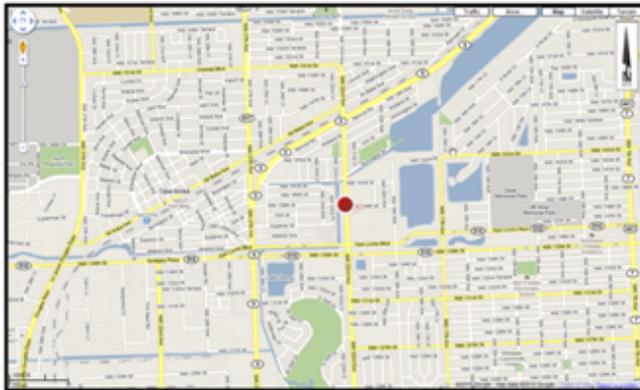
# Location Information/Specifications

## Location No. 2 NW 22 Ave @ NW 139 St

The main street at this location, NW 22 Ave, is a four lane road with a raised median that runs in the north-south direction. NW 139 St is a minor street intersecting the main street from the east. The area has both commercial/industrial and residential developments. A canal, vacant property and a few low scale businesses are located along the west side of NW 22 Ave. Little friction and weaving is expected from the nearby driveways. The outside southbound lane is extra wide and allows for on-street parking. Parking activity, however, was not observed. Therefore, the extra wide lane is available to reconfigure the southbound approach and introduce the required geometry for the proposed turbo lane. A rendering of the recommended improvements at this intersection is included in section 6 of the report.



EXISTING CONDITIONS

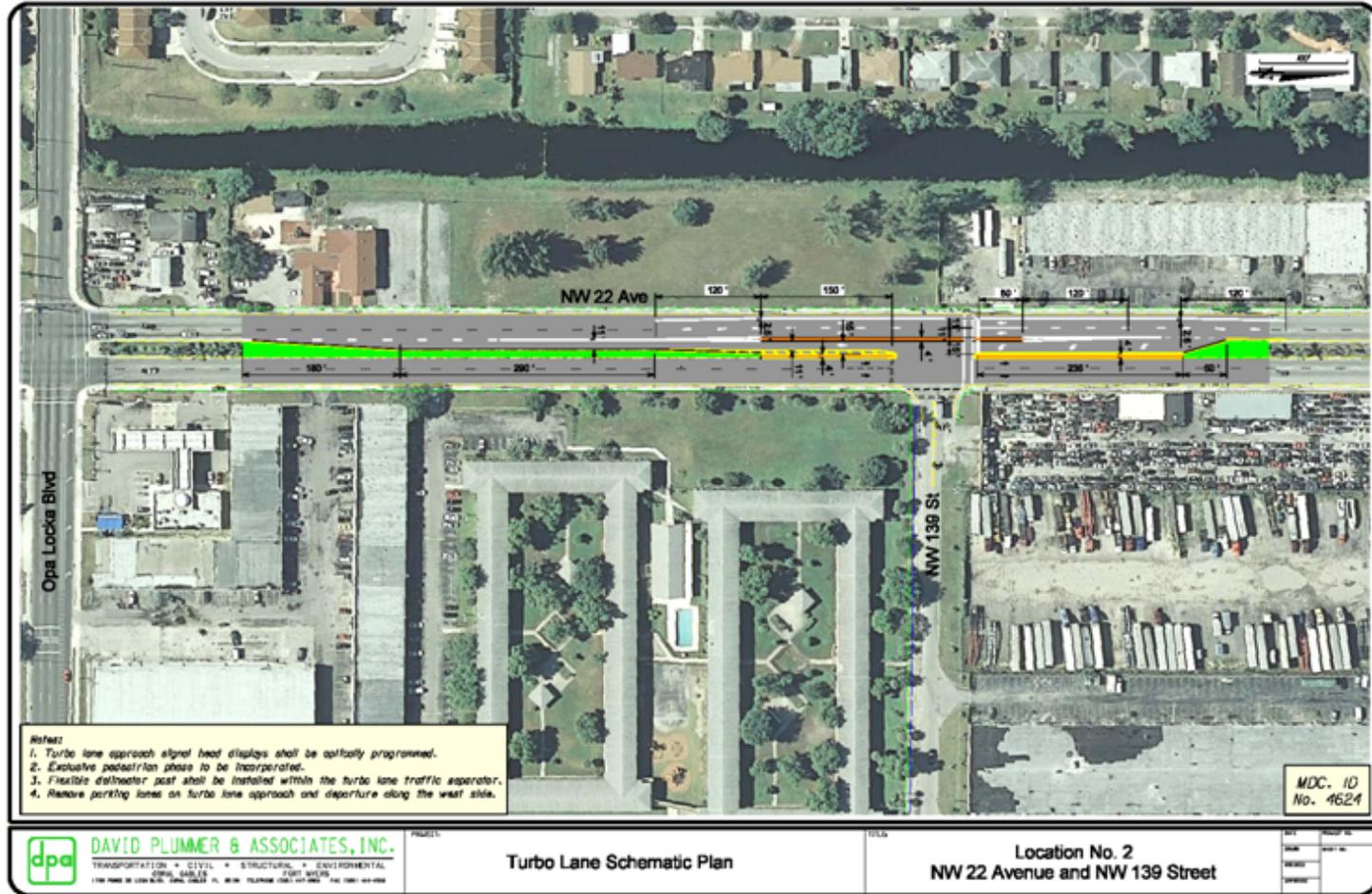


LOCATION MAP

Location ID:	2
MD Signal ID:	4624
Location:	NW 22 Ave @ NW 139 St
Posted Speed:	40 MPH
Turbo Lane Direction:	Southbound
MD Turbo Lane Type:	A
Number of Turbo Lanes:	2
Actuated Pedestrian Phase:	Yes
Approach Capacity Improvement:	26%
Advance Signs:	No
Driveway Control:	No
Other Issues:	Remove parking lanes
Estimated Cost:	\$240,000 - \$300,000
Implementation Priority:	Low
Schedule:	Long Range

GENERAL SPECIFICATIONS

# Schematic Plan



## Location 2 - Perspective



Exhibit 3: Location 2 (Type A with pedestrian crossing): NW 22 Ave @ NW 139 St

## Location 18 - Perspective



# Benefits

Increase in intersection approach capacity

ranging from 7 to 173%

at 25 intersections

# Lane Type Cost Matrix

**Exhibit 7**  
**Preliminary Cost Estimates by Turbo Lane Type**

<b>Turbo Lane Type</b>	<b>Low</b>	<b>Mid</b>	<b>High</b>
Type A or B	\$215,000	\$270,000	\$325,000
Type C	\$135,000	\$170,000	\$205,000
Type D	\$95,000	\$120,000	\$145,000

Source: David Plummer and Associates

# Priority Evaluation

- Capacity Improvement
- Cost
- Implementation Issues

# Implementation

- Short Term: 6 – 12 Months
- Mid Term: 1 – 2 Years
- Long Term: 3 Years +

# Questions?