

Signing Cashless On MDX

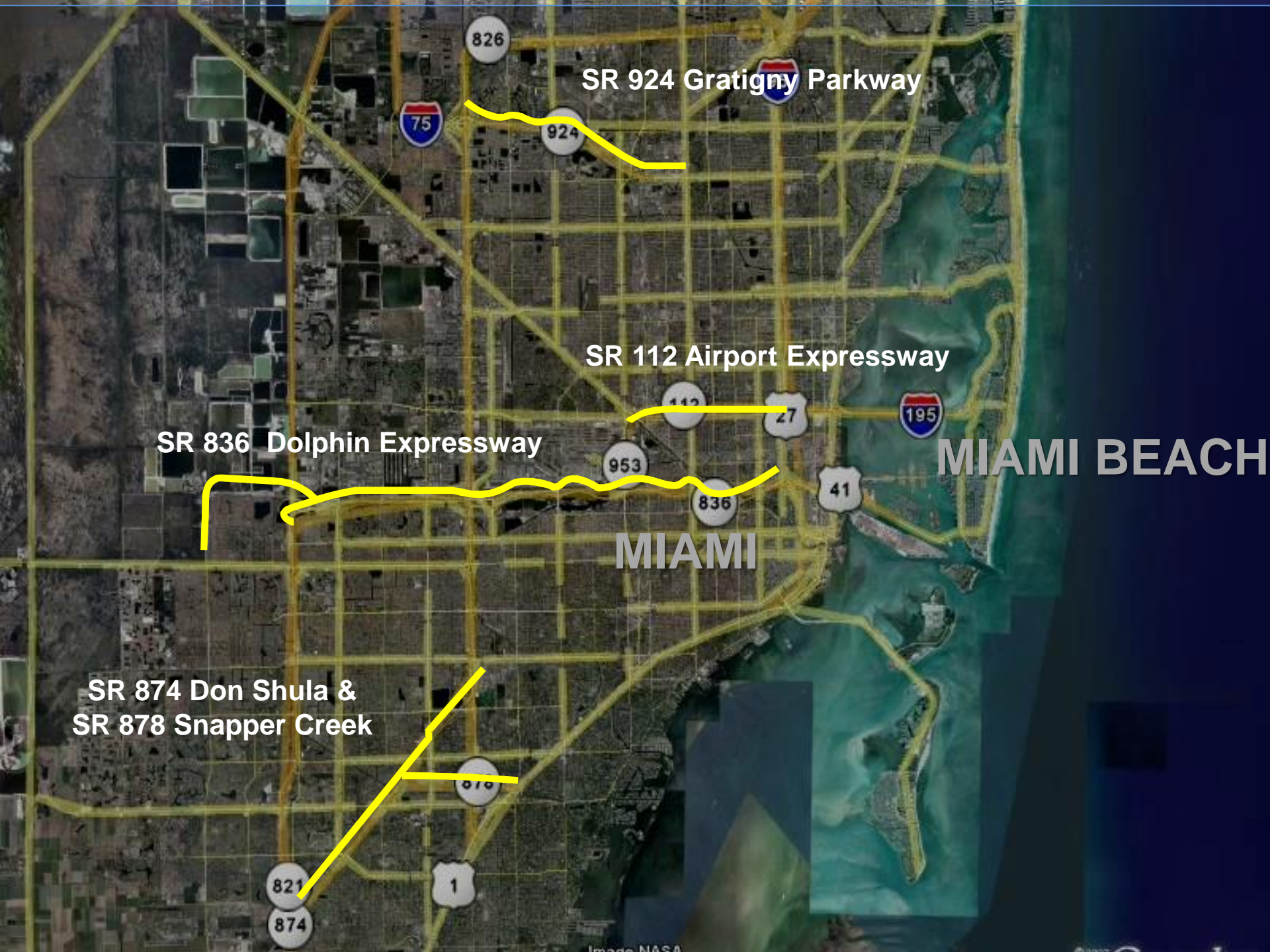
www.mdxway.com

Let's move *forward* together.



MDX Overview

- MDX is an agency of the state created by the Florida Legislature and the Miami-Dade County Board of County Commissioners in 1994
- MDX currently maintains and operates five urban expressways within Miami-Dade County
 - SR 836 Dolphin Expressway
 - SR 112 Airport Expressway
 - SR 874 Don Shula Expressway
 - SR 924 Gratigny Parkway
 - SR 878 Snapper Creek Expressway
- More than a million commuters travel the MDX system everyday



SR 924 Gratiigny Parkway

SR 112 Airport Expressway

SR 836 Dolphin Expressway

SR 874 Don Shula &
SR 878 Snapper Creek

MIAMI BEACH

MIAMI

826

75

924

112

27

195

953

836

41

878

821

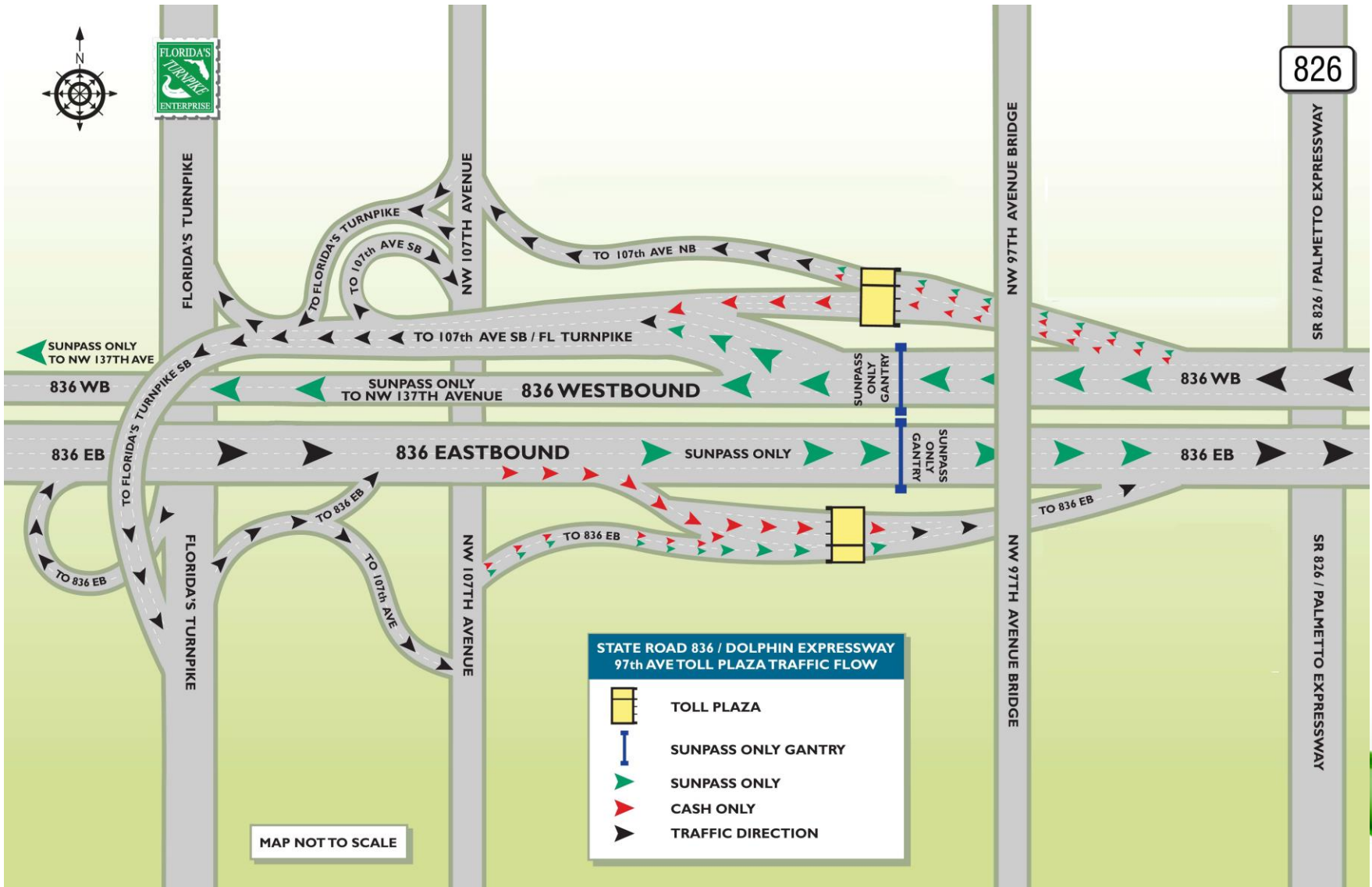
874

1

Open Road Tolling

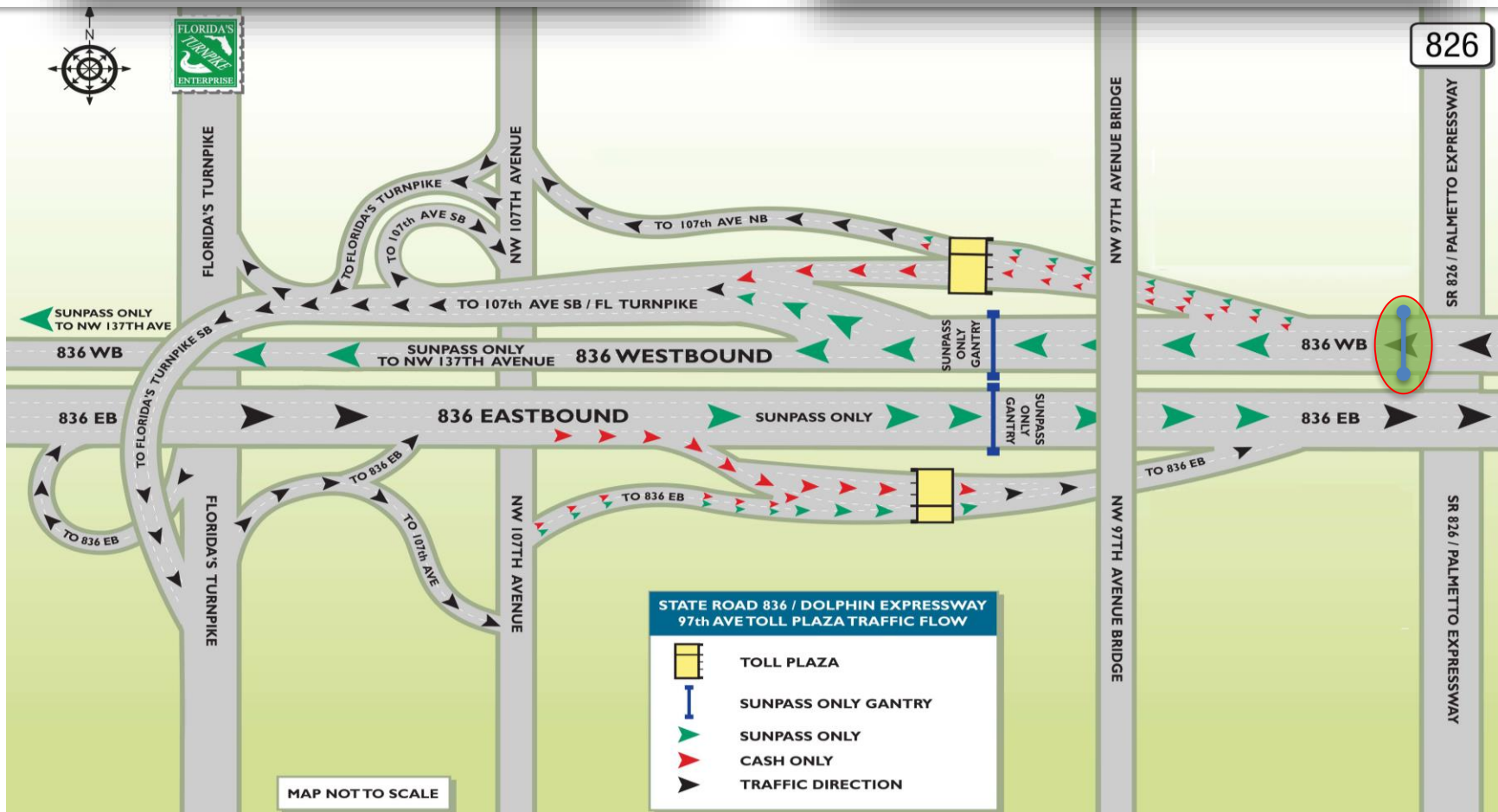
- In 2007 MDX opens first All Electronic facility.
 - SR 836 Extension (Sun Pass Only).
 - Project includes new tolling points on existing SR 836 with both electronic and cash options.
- Decision points in short distances created Signing challenges.

Signing For Complex Mixed Tolling Point



Before

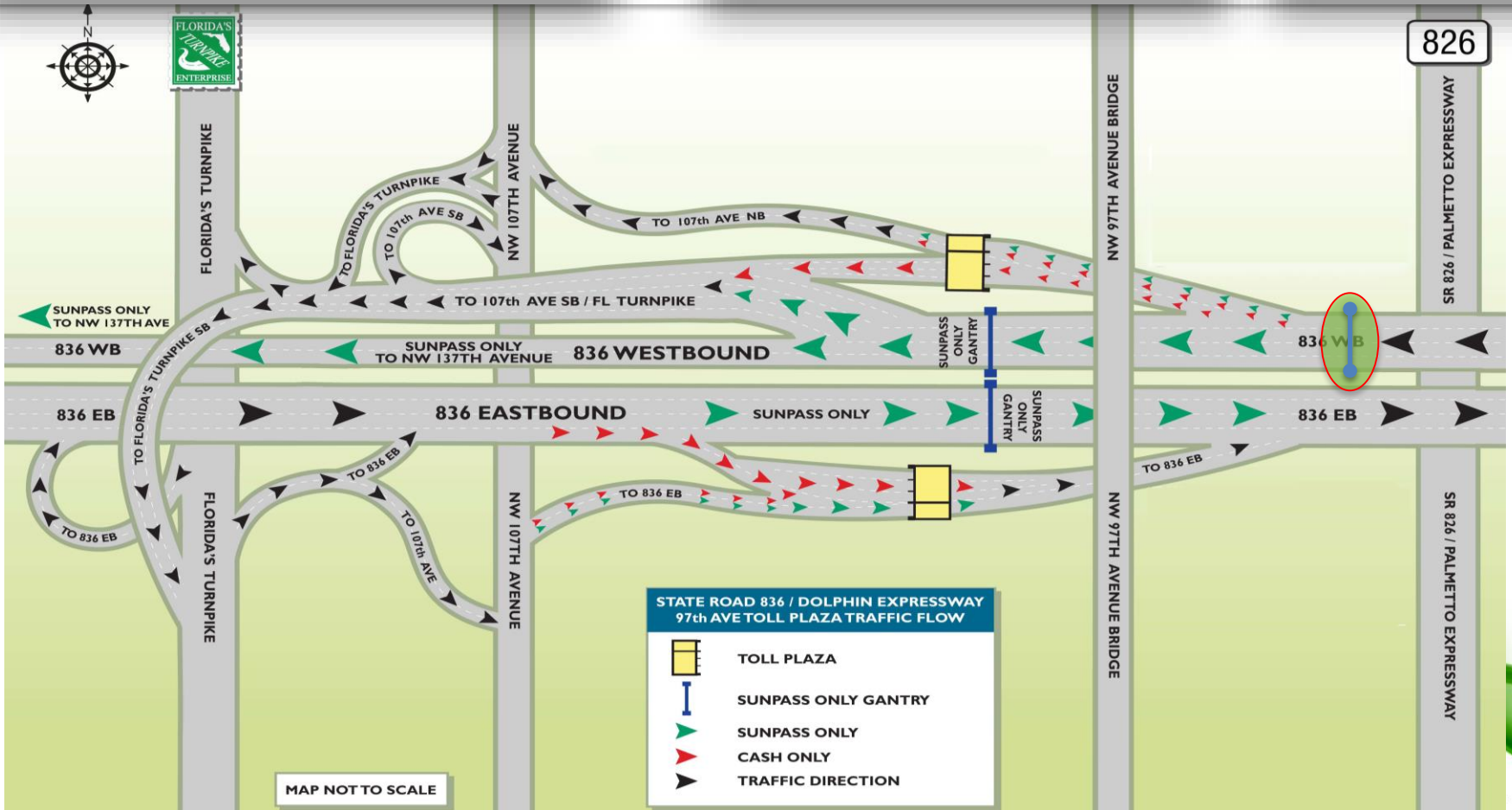
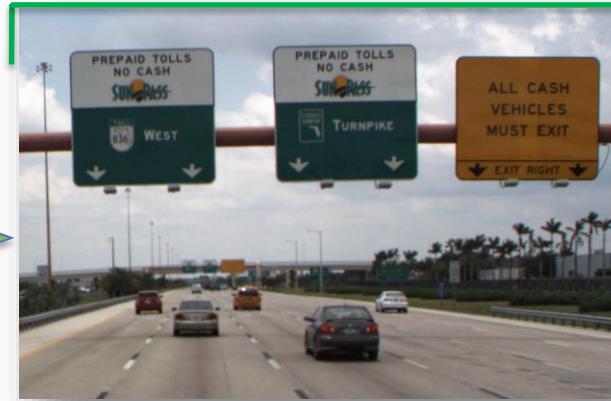
After



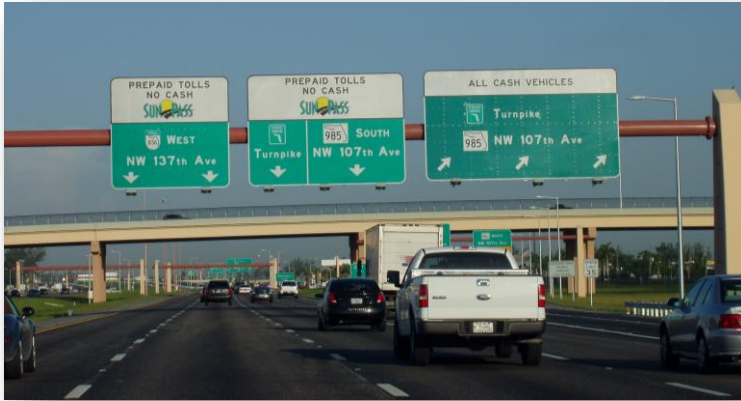
Before



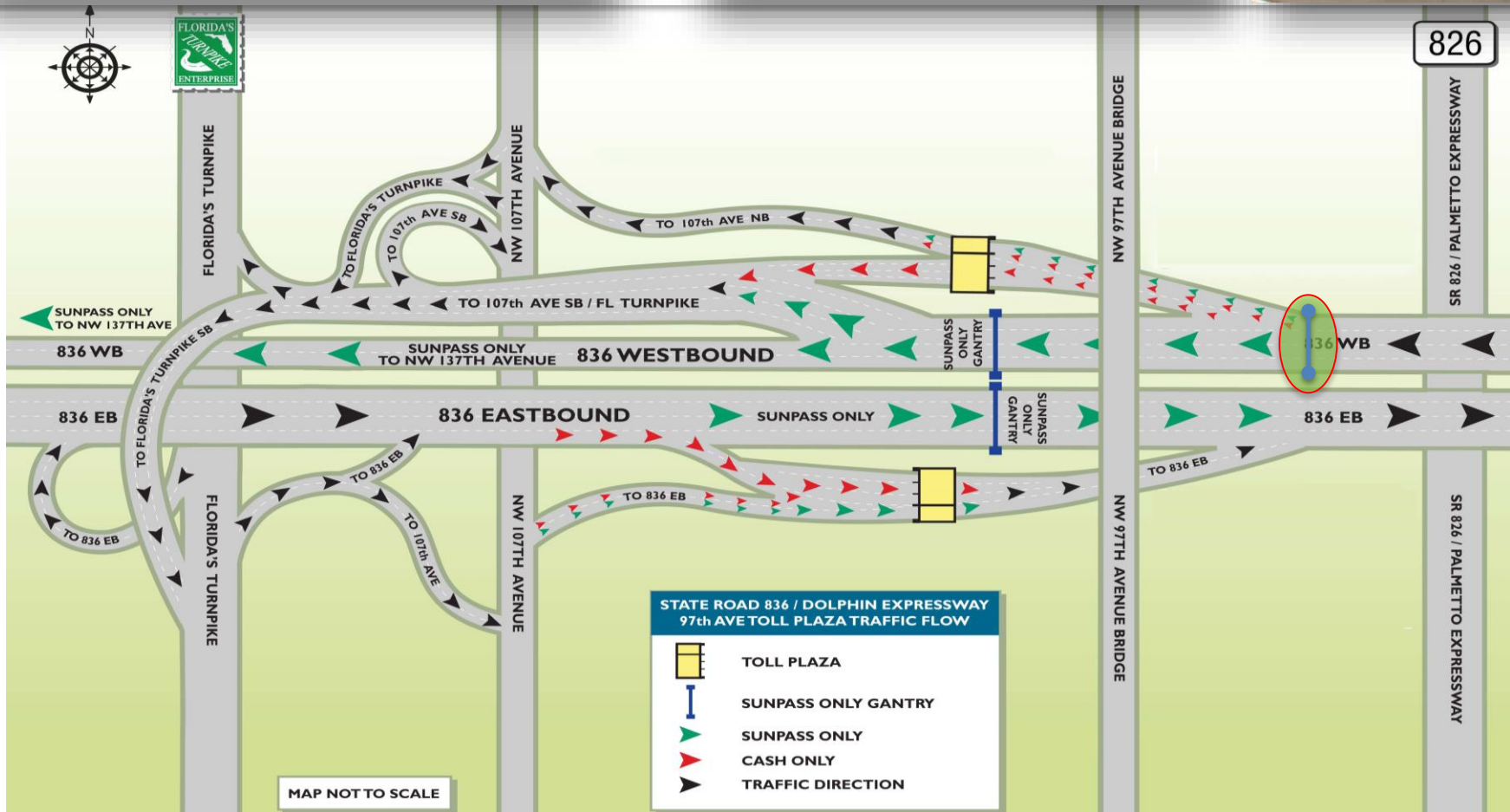
After



Before



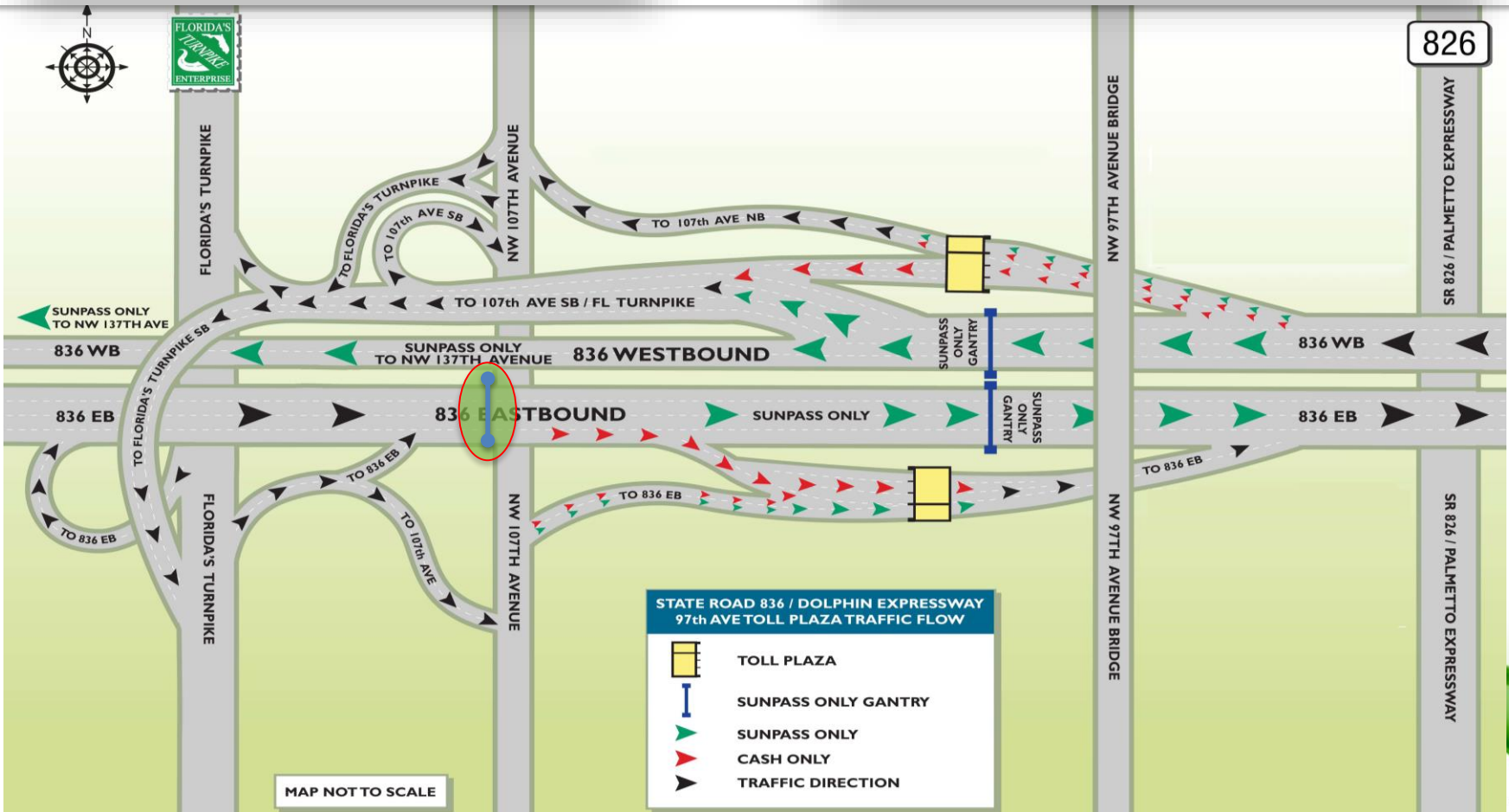
After



Before



After



Before



After

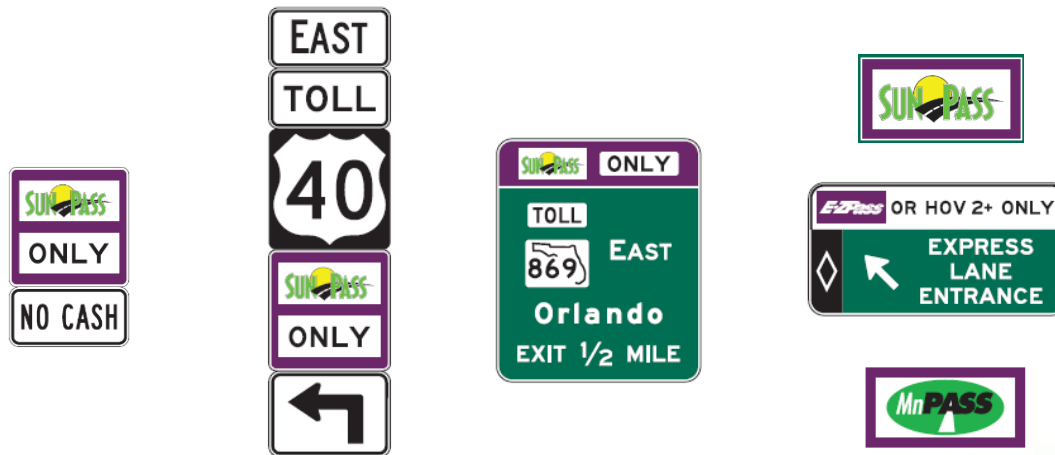


Signing For Open Road Tolling (ORT)



NPA MUTCD

- Purple – electronic toll collection (ETC)
- ETC – transponders / pre-paid account
- No provisions for video billing (Toll-By-Plate)





MUTCD 2009 EDITION

- Purple – lanes restricted to use only by vehicles with registered ETC accounts
- 2F.03 - Only to be used with the ETC logo
- Specific provisions for video tolling
- Purple is “inappropriate” for systems not restricted to pre-paid accounts

Section 1A.12 – New purple color for lanes restricted to only vehicles with registered “electronic toll collection accounts”

A - PICTOGRAPH DESIGN WITH A PURPLE BACKGROUND AND A WHITE CONTRASTING BORDER



1. Pictograph on a purple or other non-contrasting background



2. Pictograph on a white or other contrasting background

B - PICTOGRAPH DESIGN WITH A BACKGROUND COLOR OTHER THAN PURPLE, SHOWN ON A PURPLE UNDERLAY PANEL WITH A WHITE CONTRASTING BORDER



1. Pictograph on a purple background

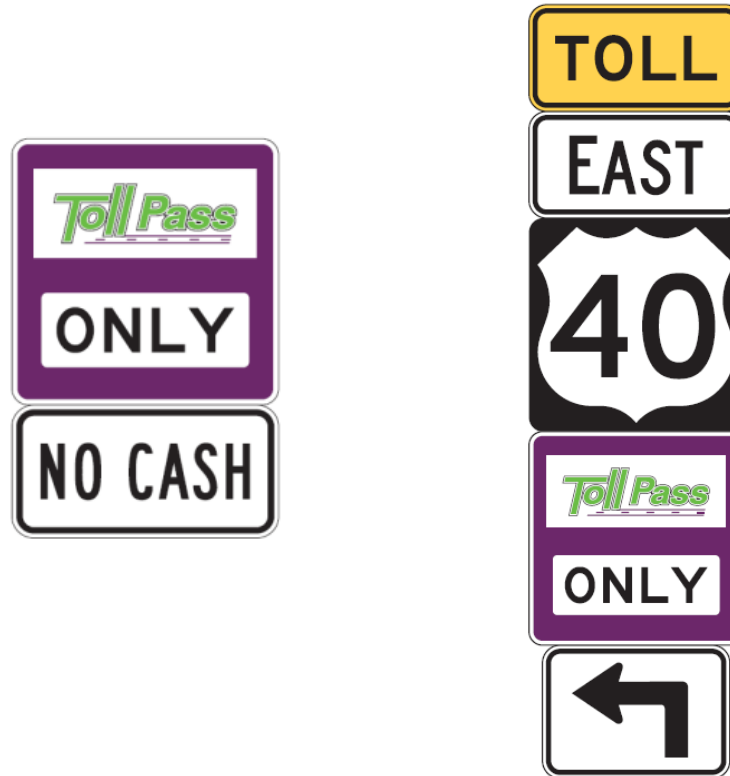


2. Pictograph with a purple underlay on a non-contrasting background



3. Pictograph with a purple underlay panel on a white or other contrasting background

Section 1A.12 – New purple color for lanes restricted to only vehicles with registered “electronic toll collection accounts”



South Florida Coordination



- Strong Desire to Collaborate for Consistency
- Interface Locations
 - e.g., SR 874 (Don Shula), SR 836 (Dolphin Expressway)
- Same Users/ Customers

Advance Sign Assemblies



Direction of Travel

Direction of Travel

Advance Sign Assemblies



Installed Example

Advance Guide Sign Panels

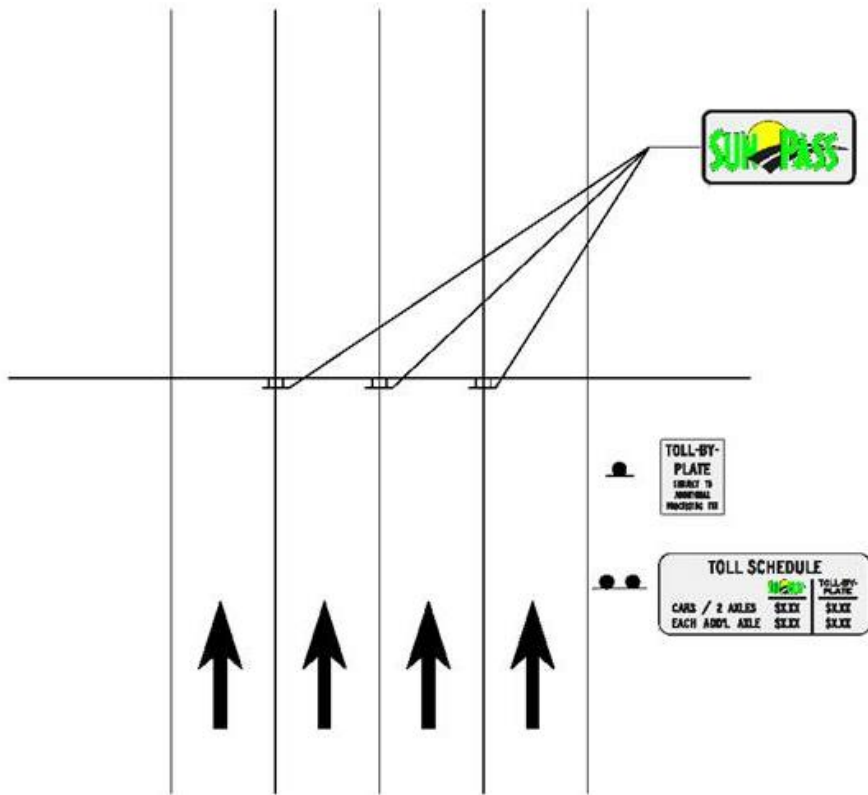


Advance Guide Signs

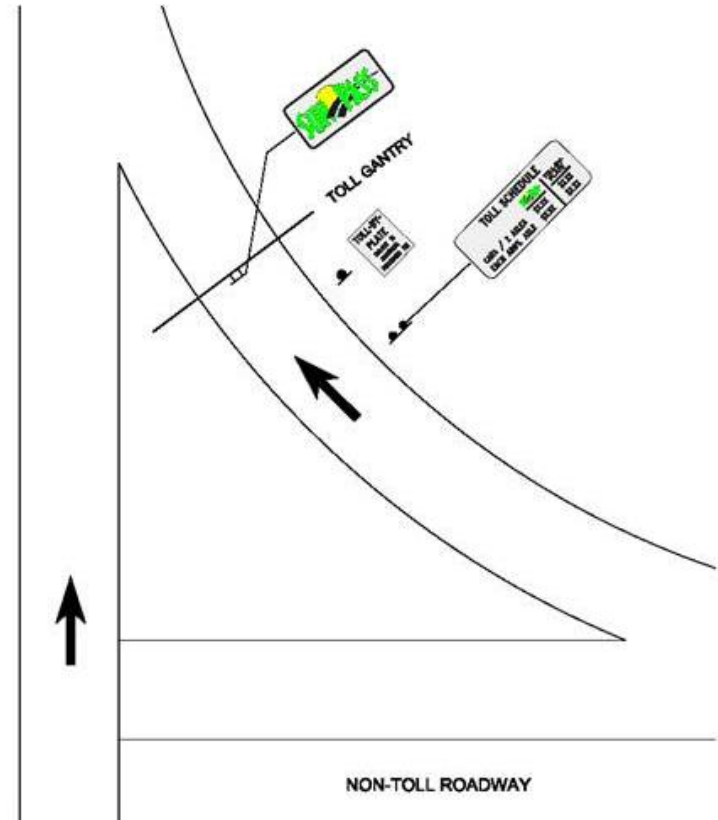


Installed Example

Signs At Tolling Locations



Mainline



Entrance Ramps

Tolling Location Installed Signs



Avoid Confusing Messaging



Lessons Learned

- Less is more but...
 - Only provide sufficient Information to guide users
- Consistency in signage is paramount
- Standards do not account for all situations

What's Next

- Interoperability
 - Apply lessons learned
 - Need for consistent type of messaging
 - Keep it SIMPLE