

RESOLUTION NO. 17-232

A RESOLUTION IN SUPPORT OF THE DESIGN FOR THE EAST INTERNATIONAL SPEEDWAY BOULEVARD IMPROVEMENT PROJECT CURRENTLY UNDER REVIEW BY THE FLORIDA DEPARTMENT OF TRANSPORTATION; AND PROVIDING AN EFFECTIVE DATE.

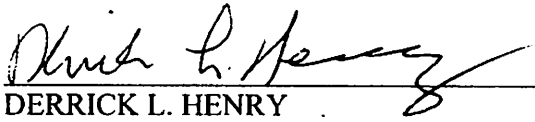
WHEREAS, by Resolution No. 17-84, the City Commission stated its intent to advance to the Florida Department of Transportation (“FDOT”) \$750,000 for the cost of project-related preliminary design and engineering services for the East International Speedway Boulevard improvements project (the “East ISB Project”), and \$25,000,000 for all other costs through completion of Project construction, subject to reimbursement by FDOT; and

WHEREAS, FDOT has submitted three design options for the East ISB Project and has requested that the City indicate its preferred design alternative.


NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF DAYTONA BEACH, FLORIDA:

SECTION 1. The City Commission supports the design for the East International Speedway Boulevard improvements project referenced as Alternative C - “SR A1A Roundabout Concept Plan” of the plans provided by the Florida Department of Transportation, attached hereto.

SECTION 3. This resolution shall take effect immediately upon its adoption.


DERRICK L. HENRY
Mayor

ATTEST:


LETITIA LAMAGNA
City Clerk

Adopted: July 19, 2017

Alternative A - No Build Concept (Existing Conditions)



Alternative B - "Dog Bone" Roundabout Concept Plan

DESCRIPTION: RAISED MIDRAN THROUGHOUT, DOG HOLE, ROUNDABOUT AT HALLUX AVENUE AND SR 44/THIRINGSLA DRIVE, ROUNDABOUTS AT GRANDVIEW AVENUE AND SR 44/ATLANTIC AVENUE



Alternative C: SR A1A Roundabout Concept Plan

Request for City Commission Action Page

Heading as displayed on the Agenda:

City Manager's Office - East International Speedway Boulevard (ISB) Improvement Options - Design Recommendation (pp. 528-534)

Item as displayed on the Agenda:

Resolution approving the selection of a preferred design option to be used in the construction of improvements to East International Speedway Boulevard (ISB). The information provided was developed as a result of preliminary evaluation of the concepts and public hearing held by the Florida Department of Transportation (FDOT). Option A - No Build Concept (Existing Conditions); Option B - "Dog Bone" Roundabout Concept Plan; Option C - SR A1A Roundabout Concept Plan. This is an opportunity for the City Commission to select an option and report recommendations to FDOT.

James V. Chisholm, City Manager, to report.

Recommendation: Commission action.

Action: Motion to adopt Resolution.

ATTACHMENTS:

Agenda Summary

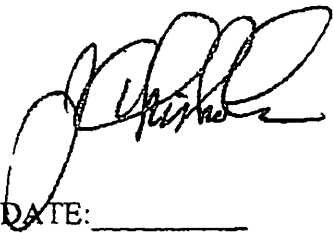
Memo to the City Commission

Aerial Map

Roundabout Safety

AGENDA SUMMARY

The City of Daytona Beach

DEPARTMENT/DIVISION: City Manager's Office STAFF CONTACT: James Chisholm- extension 8010 ITEM TITLE: East ISB Improvement Options	Meeting Date: 07-19-17 First Agenda Action: 07-19-17 Second Agenda Action:		
ACTION (check one): Presentation <input type="checkbox"/> Discussion <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Ordinance <input type="checkbox"/> Resolution – PUBLIC HEARING <input type="checkbox"/> Ordinance on first reading – PUBLIC HEARING <input type="checkbox"/>			
IS ITEM BUDGETED: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> BUDGET \$ _____ TOTAL COST \$ <u>NA</u>			
VISION PLAN/STRATEGIC PLANNING INITIATIVE: <u>This action supports both the Vision Plan and Strategic Planning initiatives.</u>			
BACKGROUND: <u>East ISB Improvement Options</u>			
STAFF/BOARD RECOMMENDATION: <u>Resolution approving the selection of a preferred design option to be used in the construction of improvements to East ISB. The information provided was developed as a result of preliminary evaluation of the concepts and public hearing held by the Florida Department of Transportation. Option A - No Build Concept (Existing Conditions); Option B - "Dog Bone" Roundabout Concept Plan; Option C - SR A1A Roundabout Concept Plan. This is an opportunity for the City Commission to select an option and report recommendations to FDOT.</u>			
REVIEWED BY AS REQUIRED:			
DEPT./DIVISION HEAD DATE: _____	PURCHASING DATE: _____	LEGAL DATE: _____	CITY MANAGER  DATE: _____



The CITY OF DAYTONA BEACH

~~~~~ "THE WORLD'S MOST FAMOUS BEACH" ~~~~~

Office of the City Manager

**TO:** The City Commission  
**FROM:** James V. Chisholm, City Manager  
**DATE:** July 12, 2017  
**SUBJECT:** East ISB Improvement Options

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This agenda item is to select a preferred design option to be used in the construction of improvements to East ISB. The information provided was developed as a result of preliminary evaluation of the concepts and public hearing held by the Florida Department of Transportation. Option A - No Build Concept (Existing Conditions); Option B - "Dog Bone" Roundabout Concept Plan; Option C - SR A1A Roundabout Concept Plan. This is an opportunity for the City Commission to select an option and report recommendations to FDOT.

Attached is an aerial map showing Options A, B & C, as well as information on roundabout safety.

JC/pjf

A handwritten signature in black ink, appearing to be "JC/pjf", written over a circular stamp or seal.





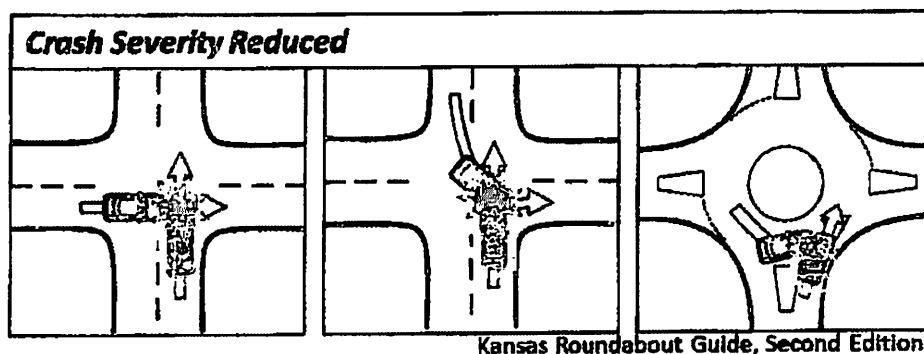
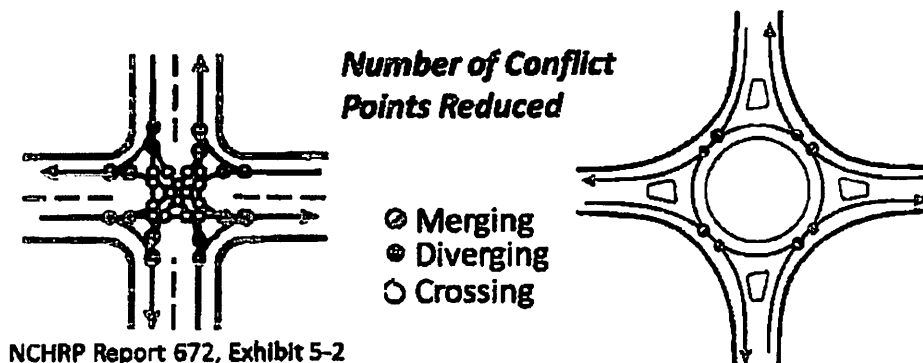
DESCRIPTION: ROUNDABOUT WITHIN THROUGHOUT "ROADWAY" SURROUNDING "SR A1A" AND "SR 16" DRIVE ROUNDED



## ROUNABOUT SAFETY

Studies of US roundabouts over the past 20+ years have consistently shown that roundabouts reduce total crashes compared to traffic signals. Roundabouts result in even greater reductions in severe injuries and fatalities due to the slower speeds and reduced numbers of conflict points. As a result, **FHWA has identified roundabouts as one of nine proven safety countermeasures.**

- **Reduced Speeds** – 25 mph max speed in single-lane roundabout and 30 mph max speed entering a multilane roundabout (assuming the driver ignores all lane lines).
  - Slow speeds = reduced chance of a severe or fatal crash. Slow speeds increase ability for drivers to react to potential conflicts.
  - Similar speeds between vehicles and pedestrians/bikes supports reduced crash potential.
- **Reduced decisions** – Entering vehicles only deal with one conflicting traffic stream. Vehicle and pedestrian conflicts are separated.
- **Reduced conflict points** – A single-lane roundabout has up to 75% fewer vehicle conflict points compared to a conventional intersection. A single-lane roundabout has 8 vehicle conflict points (one at each entry and exit) where a traditional intersection has up to 32 vehicle conflict points.
- **Reduced Severity** – Roundabouts eliminate the most severe crossing conflicts, which typically are right-angle and head-on crash types. The lower speeds at roundabouts allow more time for drivers to react to avoid a crash. When crashes occur, they tend to be more of a shallow angle or rear-end crash type which has a lower chance of injury at slow speeds.





Various studies have evaluated the safety benefits of converting a traffic signal to a roundabout. *Gross et al. (2012)* identified the following expected crash reductions based upon an average of the sites observed:

- Safety benefits of replacing a traffic signal with a two-lane roundabout:
  - 19% reduction in ALL intersection crashes
  - 71% reduction in INJURY crashes

Actual crash reductions will vary depending upon the original traffic control (stop control, signal control, etc.), the number of lanes proposed for the roundabout alternative (single-lane roundabout will have better safety performance than a multilane roundabout), historic crash types at the study intersection, and roundabout geometric features. Field data has consistently shown benefits in injury crash reductions from replacing a signal with a roundabout. However, there is larger variability in the actual reductions in property-damage-only (PDO) crashes.

## MULTIMODAL CONSIDERATIONS

Roundabouts include integral multimodal design features that support navigation by most users:

- **Pedestrians**
  - Slow vehicle speeds enhance safety
  - Splitter island refuge minimizes crossing distances
  - Cross one direction of traffic at a time
  - Well defined walkway edges set-back from roadway channelize pedestrian to crossings.
- **Bicycle**
  - Options for navigating through the roundabout by claiming lane or exiting onto an adjacent multiuse path depending on skill level or comfort.
  - Slow speeds increase safety - circulating speeds in roundabout are similar to bicycle travel speeds.



Source: Lea Rodegards, Kittelson & Associates, Inc.



## VISUALLY IMPAIRED PEDESTRIANS AT ROUNDABOUTS

While roundabouts provide benefits for most users, they may present additional navigation challenges to visually impaired pedestrians. The circular intersection shape and curvilinear approach alignments can increase the difficulty in finding the crosswalk, aligning to cross, and maintaining alignment during the crossing. In addition, visually impaired pedestrians have difficulty distinguishing between entering, exiting, and circulating vehicles due to the close proximity of these movements to one another.

Design elements outlined in NCHRP Report 672, *Roundabouts: An Informational Guide*, Second Edition can be used to aid in navigation tasks. However, recent studies have shown challenges with visually impaired pedestrians being able adequately detect safe crossing opportunities, particularly at multilane crossings. Low driver yielding rates also impacts safe crossing opportunities for visually impaired pedestrians. To make multilane roundabouts accessible to all users, supplemental treatments are provided at each pedestrian crossing. Simpler single-lane roundabouts are typically accessible without supplemental pedestrian crossing treatments; however, they may be still be utilized. Treatments options evaluated to date have included:

- Rectangular rapid flashing beacons (RRFB),
- Pedestrian Hybrid Beacons (PHBs),
- Raised crosswalks

In addition to supporting accessibility for visually impaired pedestrians, supplement treatments help to improve driver yielding for all pedestrians. Each treatment has unique benefits and drawbacks. Additional guidance for selection of supplement treatments is provided in NCHRP Report 834 - *Guidelines for the Application of Crossing Solutions at Roundabouts and Channelized Turn Lanes to Assist Pedestrians with Vision Disabilities*.

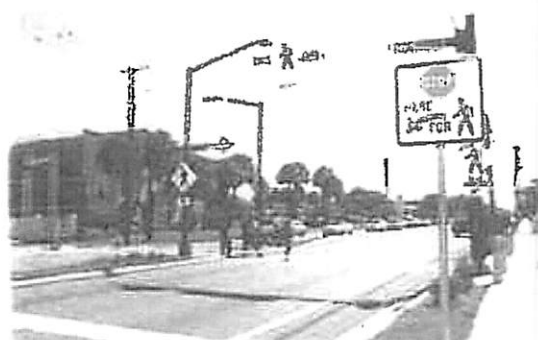


Photo: Lee Rodgerdts, Kittelson & Associates, Inc.