UC751
Story Maps, Waze, and More Help Drivers Navigate Major Freeway Improvements

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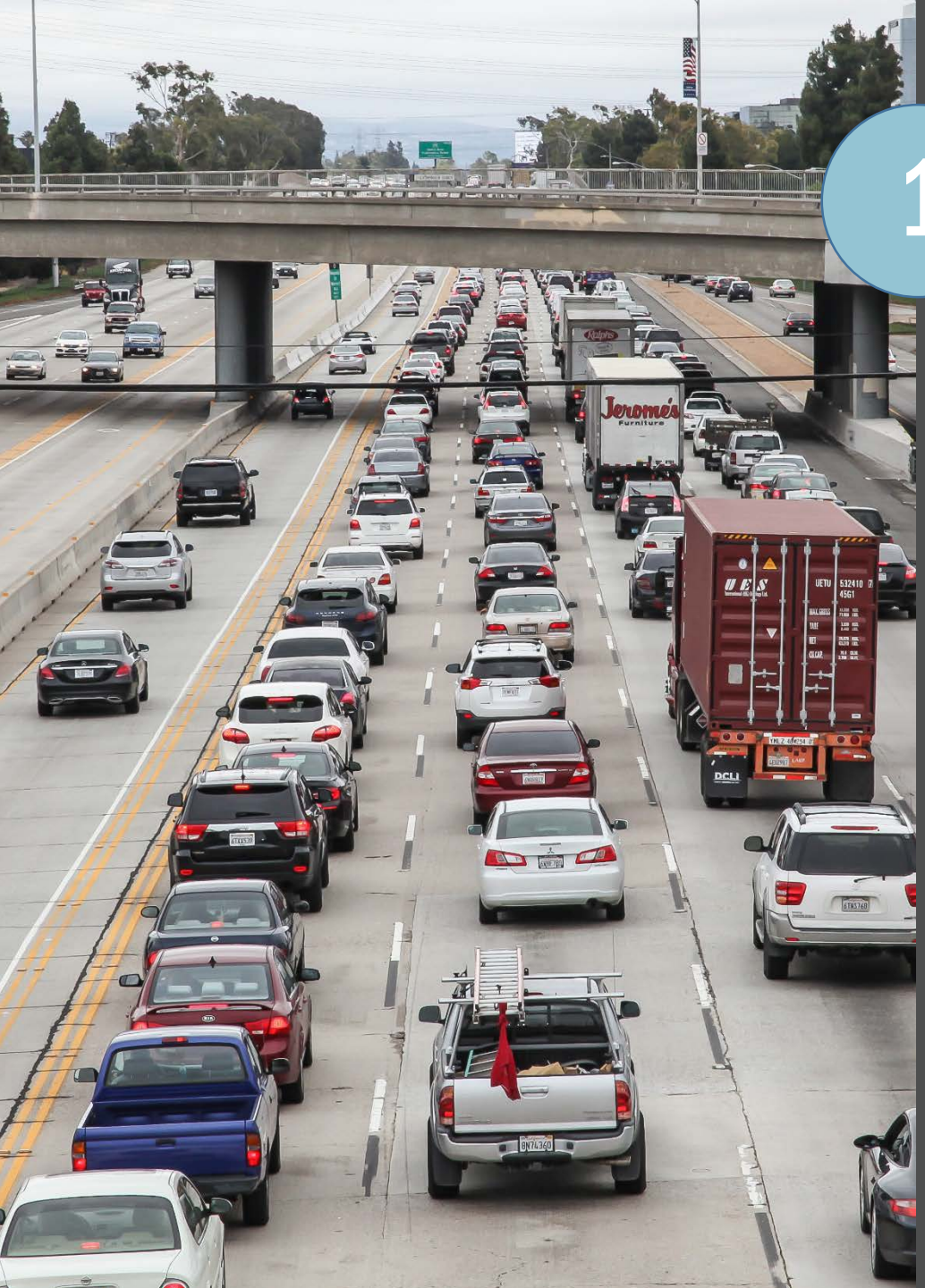
Agenda

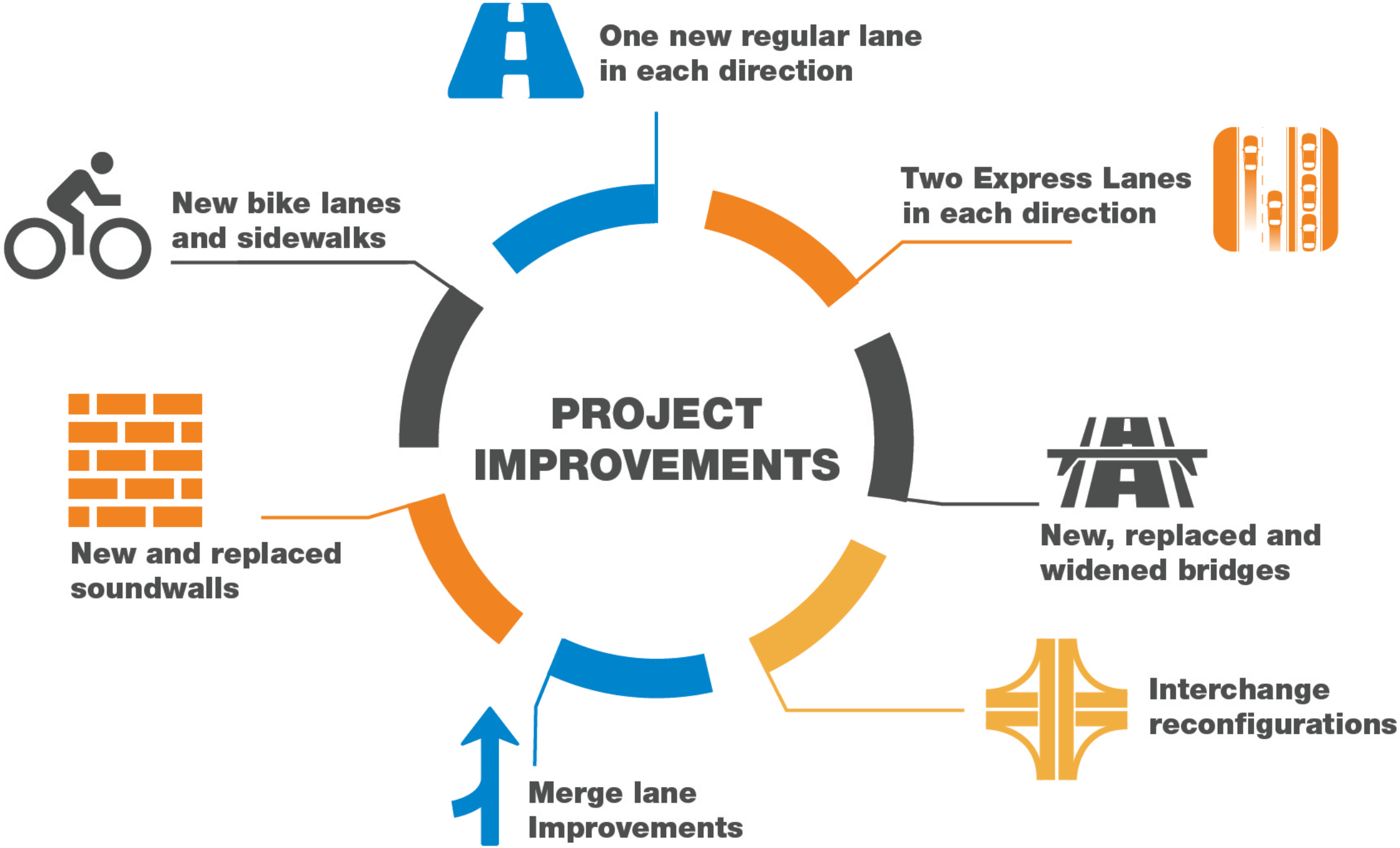
1) What is the I-405 Improvement Project
2) Interactive (Story) Map
3) Waze / Connected Citizens Program
4) Integrating GIS with Waze
5) Keys to Success

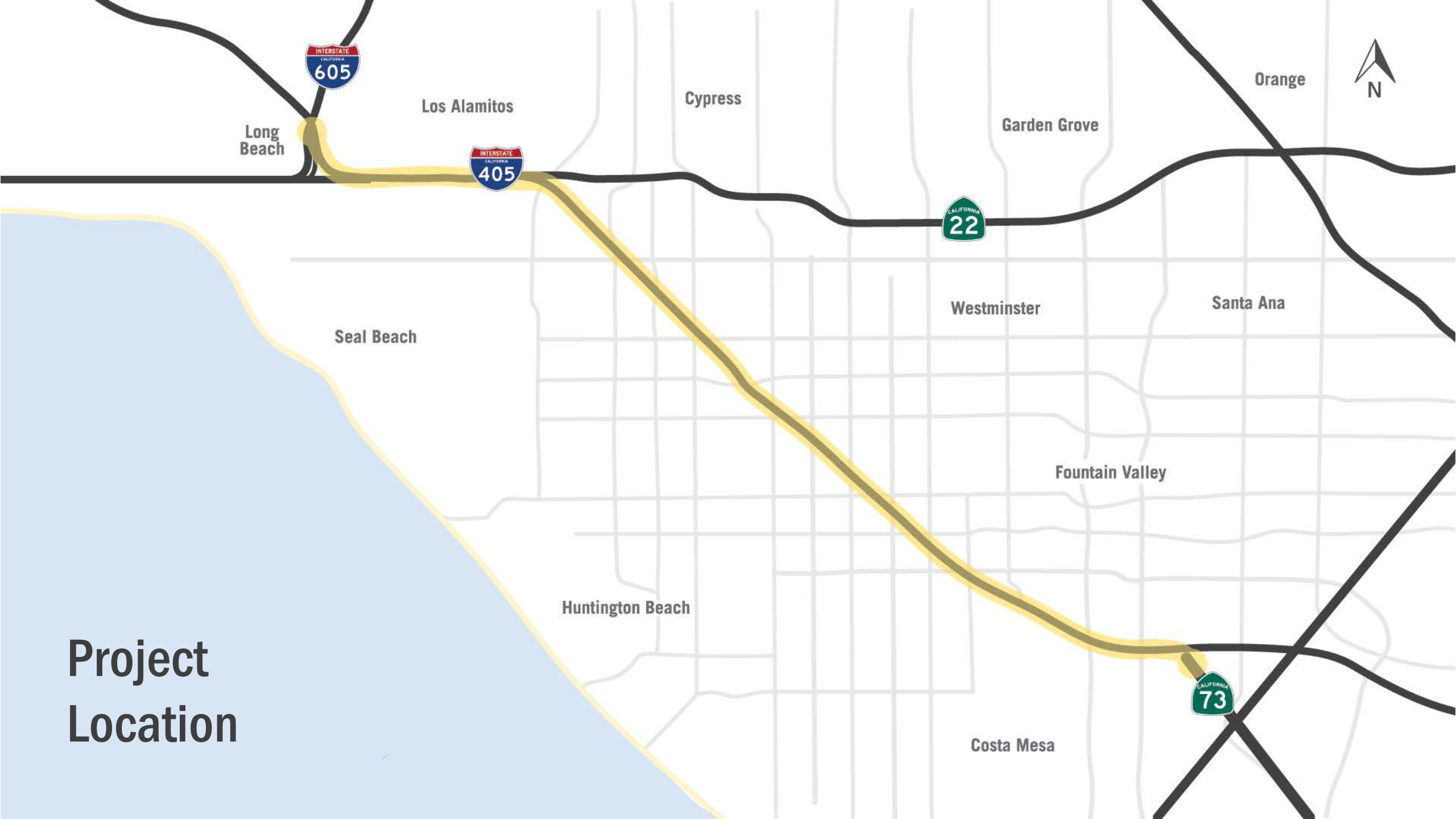


1

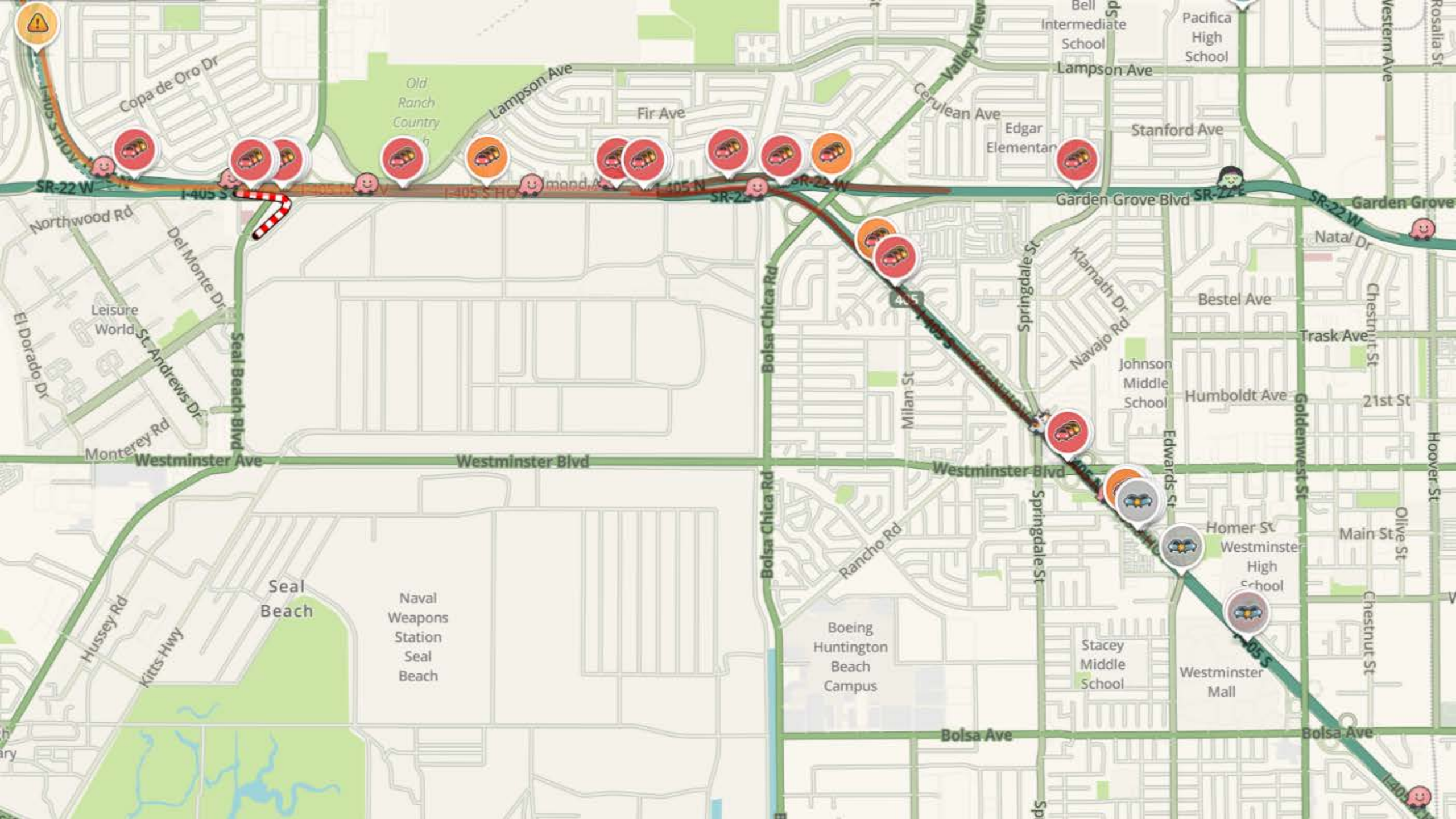
INTERSTATE 405 IMPROVEMENT PROJECT

- Reduce congestion
- Increase mobility
- Improve trip reliability
- Minimize environmental impacts

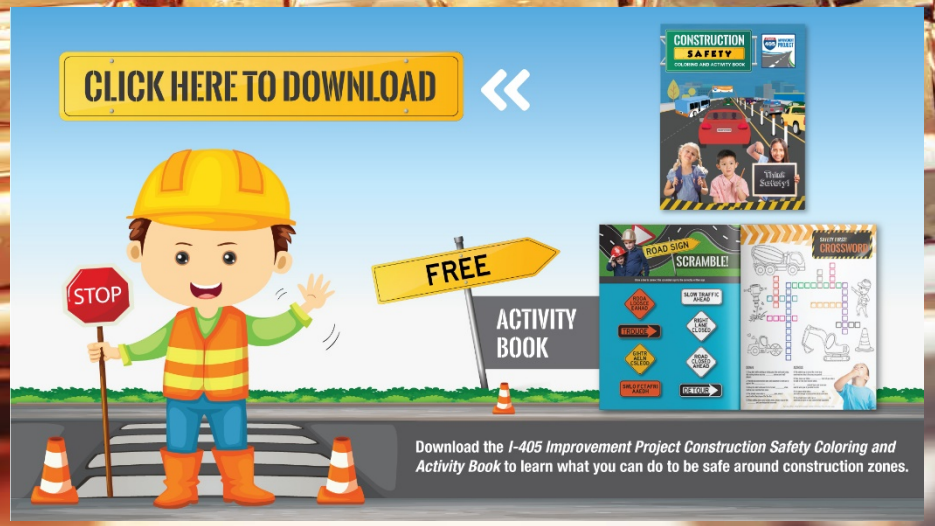

One new regular lane in each direction
Two Express Lanes in each direction
New bike lanes and sidewalks
PROJECT IMPROVEMENTS
New, replaced and widened bridges
New and replaced soundwalls
Interchange reconfigurations
Merge lane Improvements


Project Location
Long Beach
Los Alamitos
Cypress
Garden Grove
Orange
N
Seal Beach
Westminster
Santa Ana
Fountain Valley
Huntington Beach
Costa Mesa
605
405
22
73


605
405
22
73
N
Long Beach
Los Alamitos
Cypress
Garden Grove
Orange
Seal Beach
Westminster
Santa Ana
Fountain Valley
Huntington Beach
Costa Mesa
Bolsa Chica Road
Springdale Street
Westminster Boulevard
Edwards Street
Goldenwest Street
Bolsa Avenue
McFadden Avenue
Beach Boulevard
Edinger Avenue
Newland Street
Heil Avenue Pedestrian
Magnolia Street
Warner Avenue
Bushard Street
Slater Avenue
Brookhurst Street
Talbert Avenue
Ward Street
Santa Ana River
NEW I-405/SR-73 Express Lanes Connector
Harbor Boulevard
Fairview Avenue
LEGEND
Project Limits
Bridge Closed to Traffic During Construction
Bridge Open to Traffic During Construction
Anticipated Start of Construction*
2018
2019
2020
2021
*Subject to Change


Copa de Oro Dr
Old Ranch Country
Lampson Ave
Fir Ave
Valley View
Cerulean Ave
Bell Intermediate School
Pacifica High School
Lampson Ave
Edgar Elementary
Stanford Ave
Western Ave
Rosalia St
SR-22 W
I-405 S
I-405 N
SR-22 E
Garden Grove Blvd
Garden Grove
Northwood Rd
Del Monte Dr
Leisure World
El Dorado Dr
St. Andrews Dr
Seal Beach Blvd
Bolsa Chica Rd
Springdale St
Klamath Dr
Navajo Rd
Natal Dr
Bestel Ave
Trask Ave
Chestnut St
Johnson Middle School
Humboldt Ave
21st St
Milan St
Edwards St
Goldenwest St
Hoover St
Monterey Rd
Westminster Ave
Westminster Blvd
Rancho Rd
Homer St
Westminster High School
Main St
Olive St
Seal Beach
Naval Weapons Station Seal Beach
Hussey Rd
Kitts Hwy
Boeing Huntington Beach Campus
Stacey Middle School
Westminster Mall
Bolsa Ave


405
SQUAD


CLICK HERE TO DOWNLOAD
STOP
FREE
ACTIVITY BOOK
CONSTRUCTION SAFETY
ROAD SIGN SCRAMBLE!
CROSSWORD
Download the I-405 Improvement Project Construction Safety Coloring and Activity Book to learn what you can do to be safe around construction zones.


County Transportation Auth
405
PROJECT

2

Interactive (Story) Map

- Tells a story
- Dynamic
- Mobile-friendly

Everyone has a story to tell

Construction information can be inundating. Using a Story Map to combine narrative text with maps, images, and multi-media content in an engaging, full-screen scrolling experience.

I-405 Improvement Project

GET CONNECTED: SIGN-UP FOR UPDATES AND ALERTS

OCTA

Overview

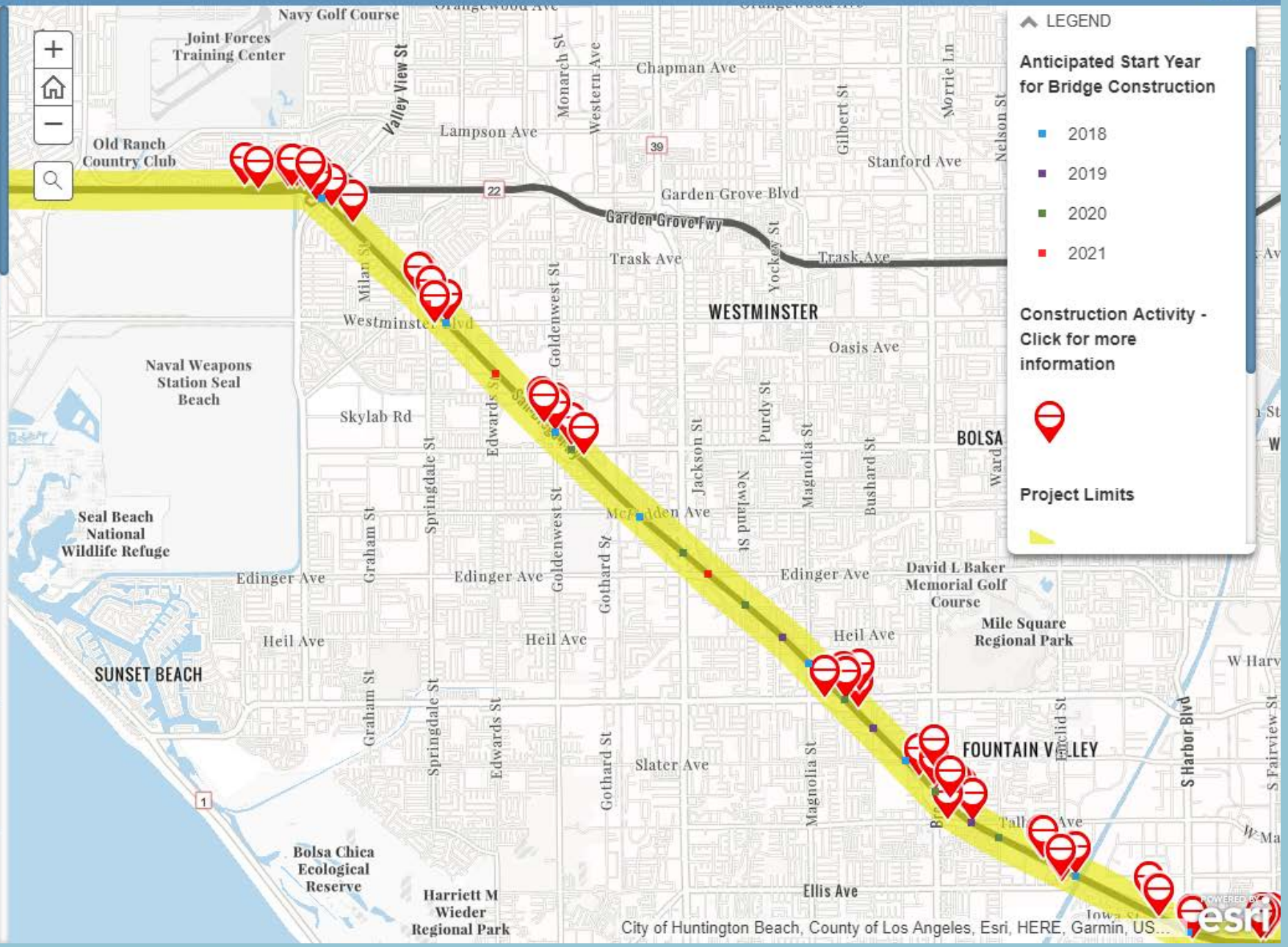
OCTA in cooperation with Caltrans is widening the San Diego Freeway (I-405) between SR-73 and I-605.The project will improve 16 miles of I-405 between the SR-73 freeway in Costa Mesa and I-605 near the L.A. County line.

I-405/SR-73 Connector

Fairview Rd

Harbor Blvd

Santa Ana River



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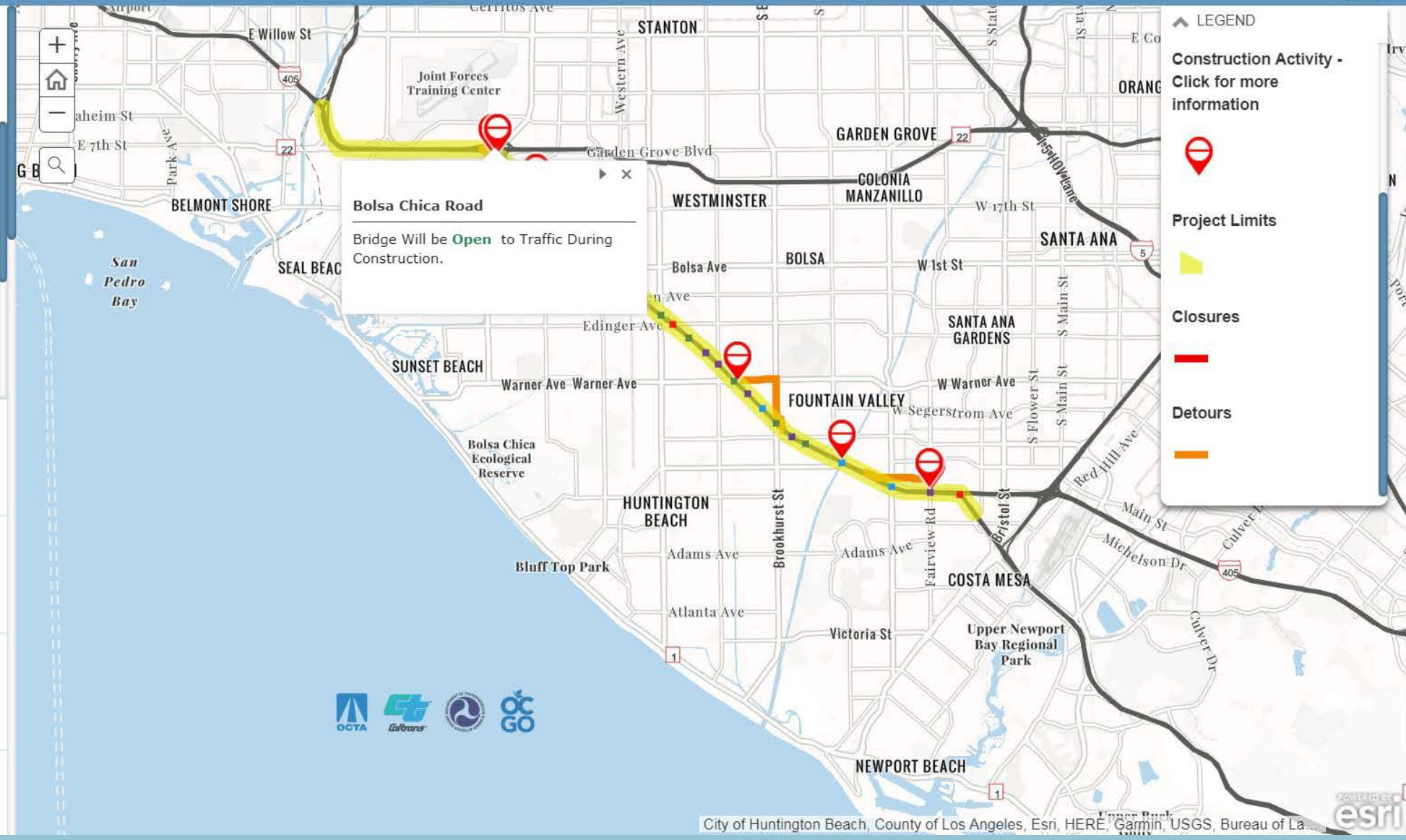

I-405 Improvement Project

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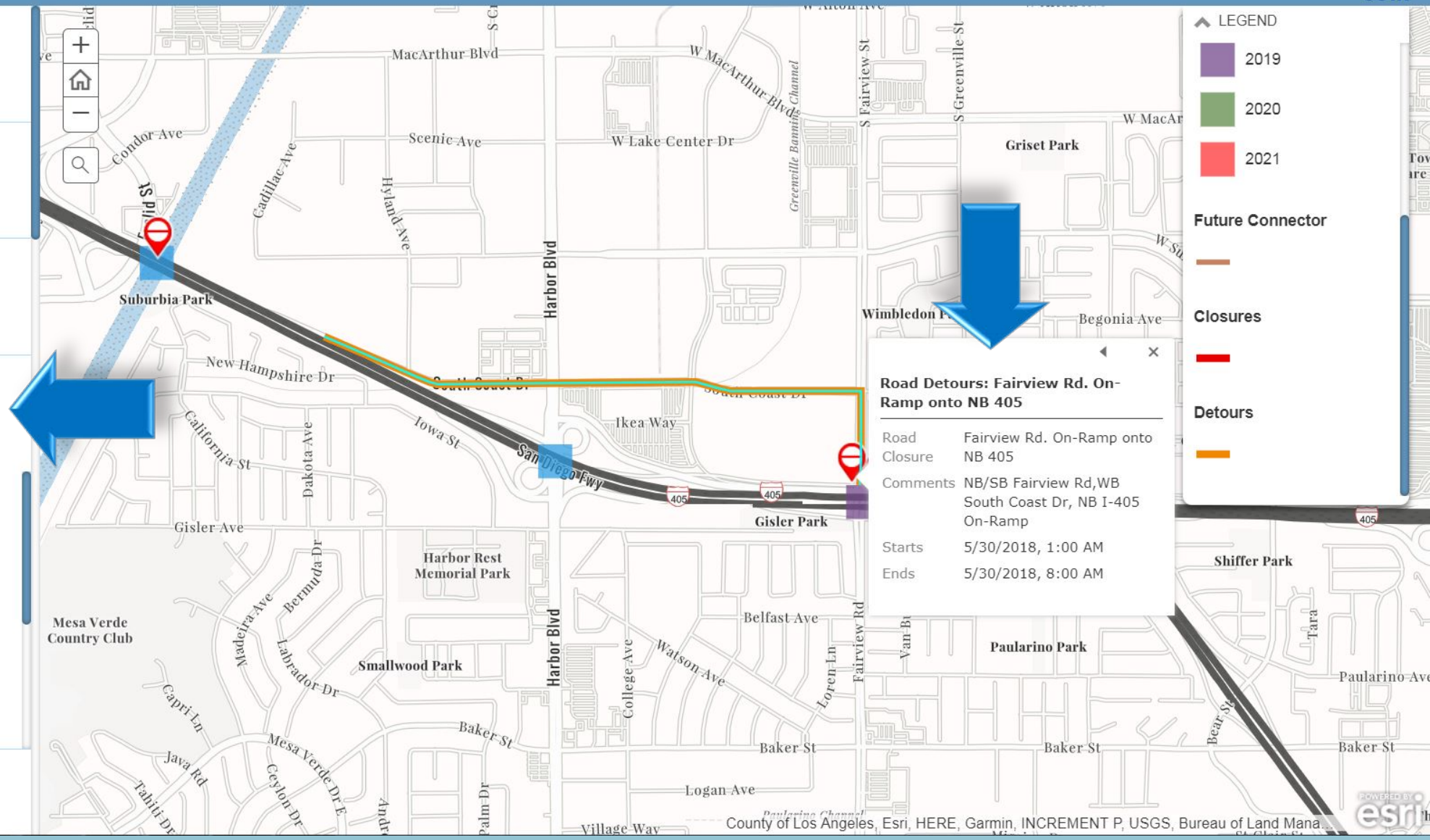
OCTA

- Overview
- I-405/SR-73 Connector
- Fairview Rd
- Harbor Blvd

- Santa Ana River



I-405 Improvement Project

GET CONNECTED: SIGN-UP FOR UPDATES AND ALERTS

OCTA

Ward St

Talbert Ave

Talbert Avenue

Anticipated Start: 2019

Bridge **CLOSED** during construction

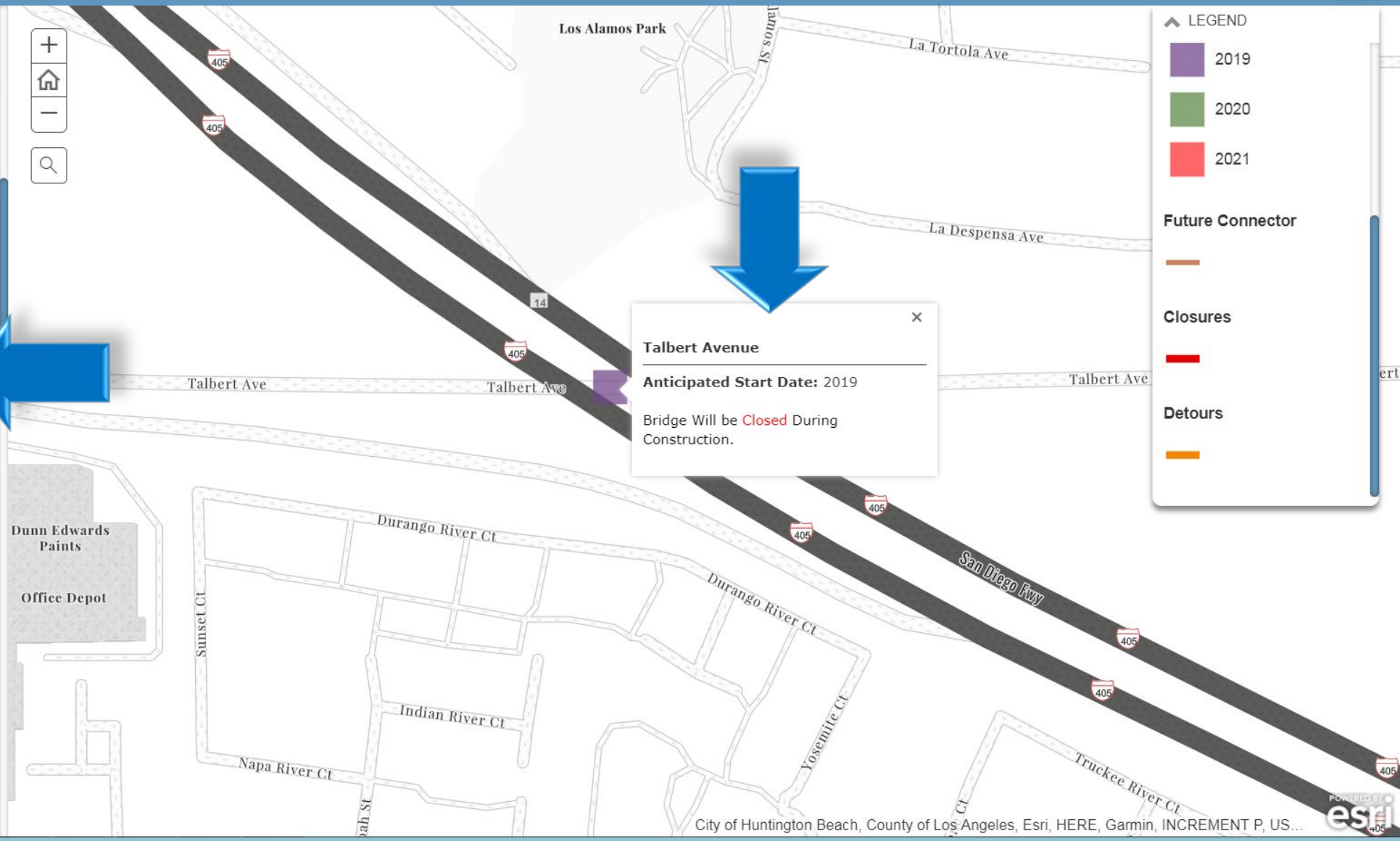
Project Improvements:

- 2 new lanes of travel
- New bike lanes on both sides of the bridge

Brookhurst St

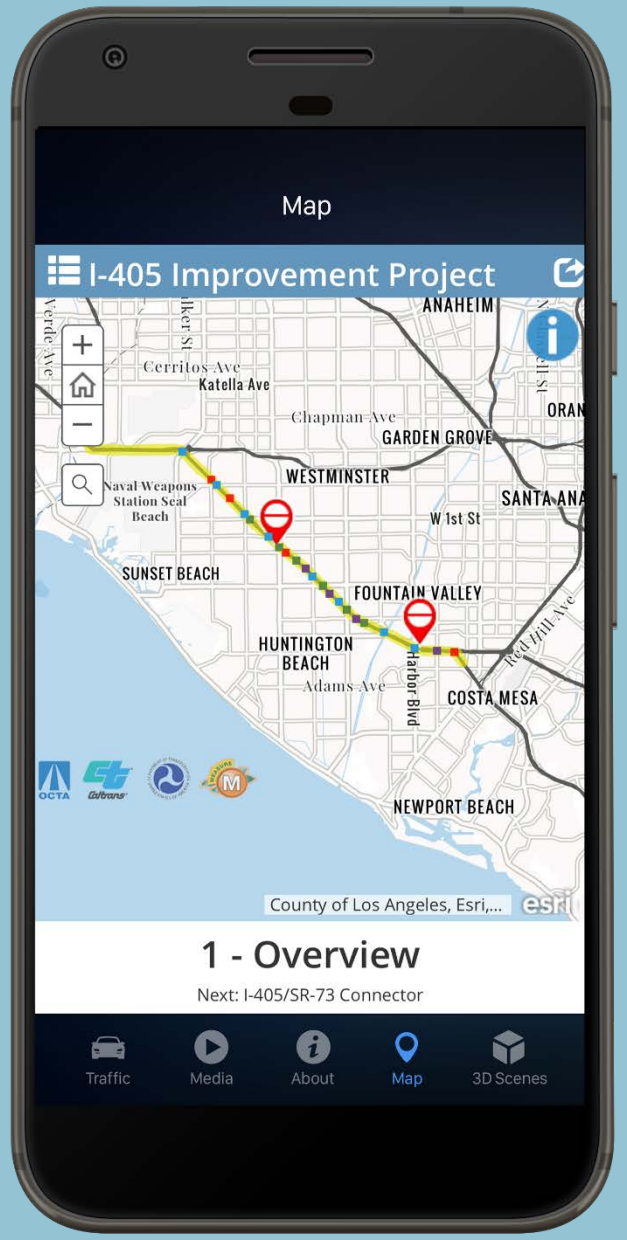
Slater Ave

Bushard St



Mobile App in Development:

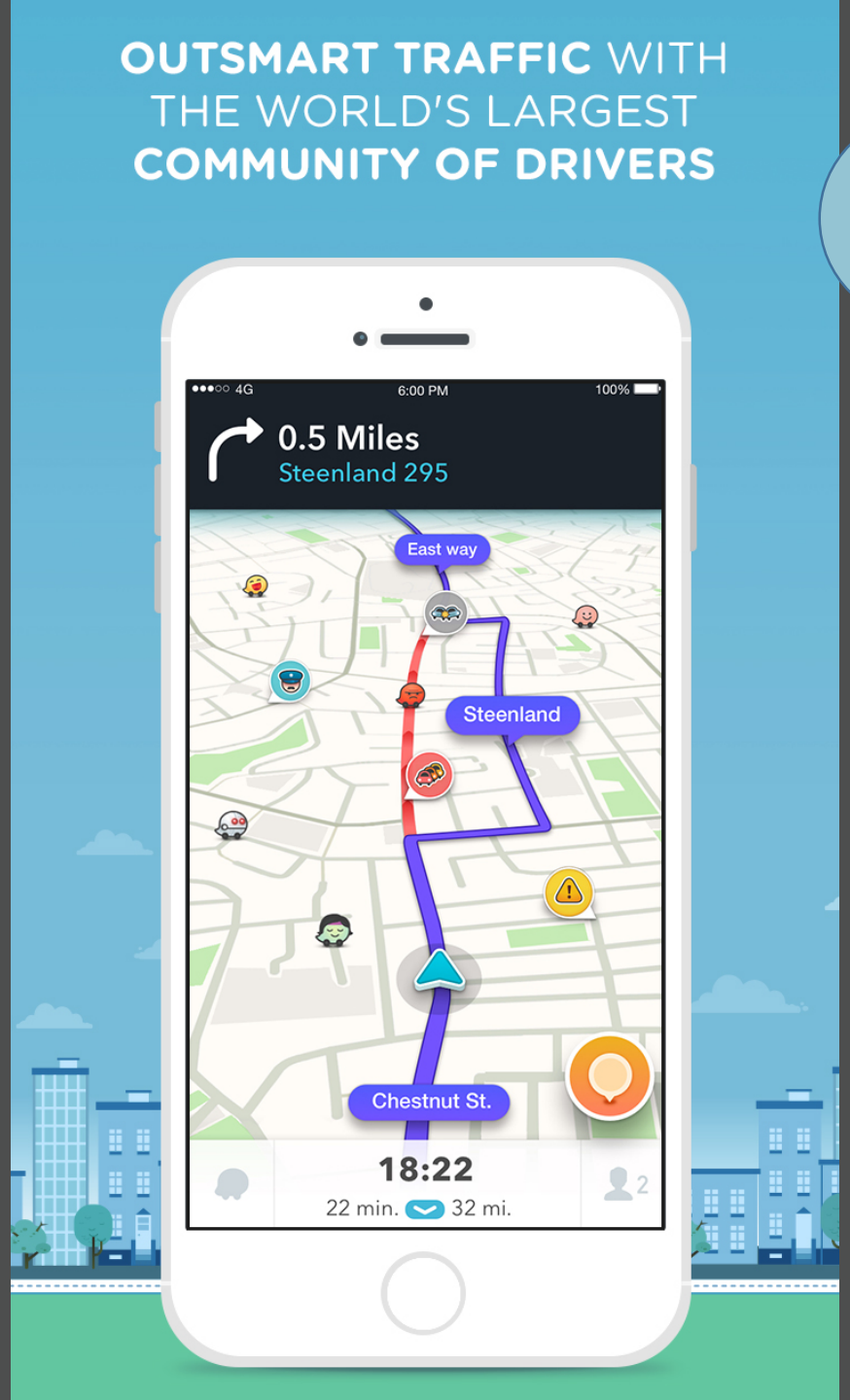
- Access the project information
- E-blast notifications
- Current traffic conditions
- Interactive (Story) Map
- Launch or Ask to install Waze App



3

Waze / Connected Citizens Program

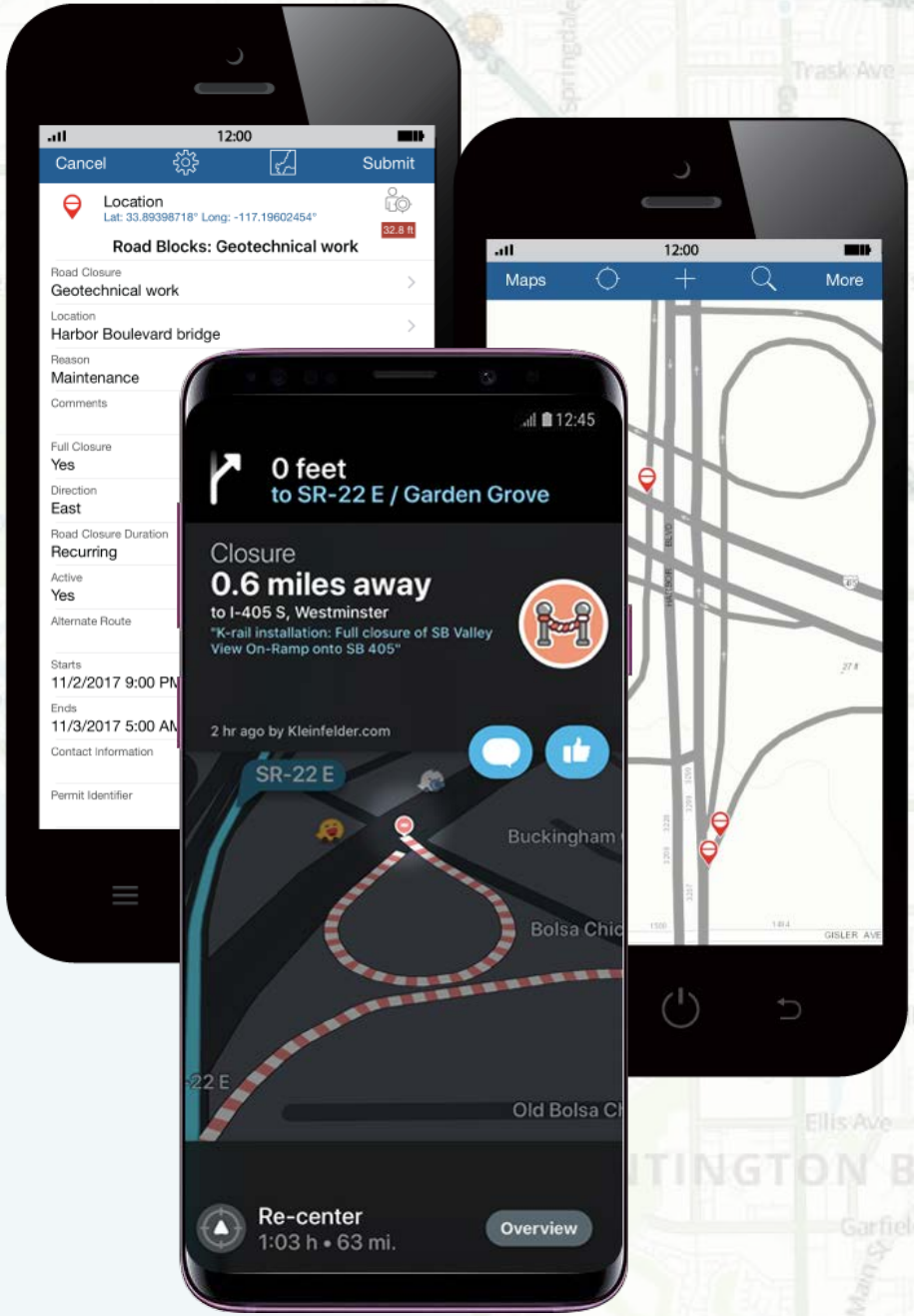
- Actionable data
- Be PROACTIVE
- Leverage Kleinfelder’s agreement with Waze

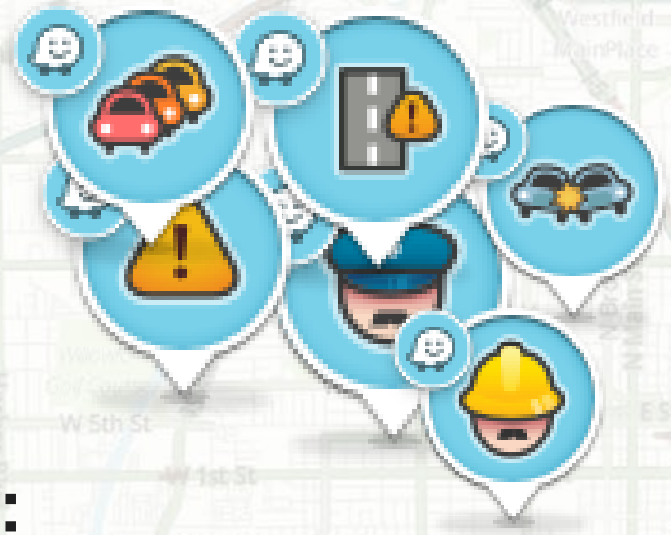


4

ArcGIS Online + Waze

- Share data with everyone
- Leverage an app already popular with constituents & commuters



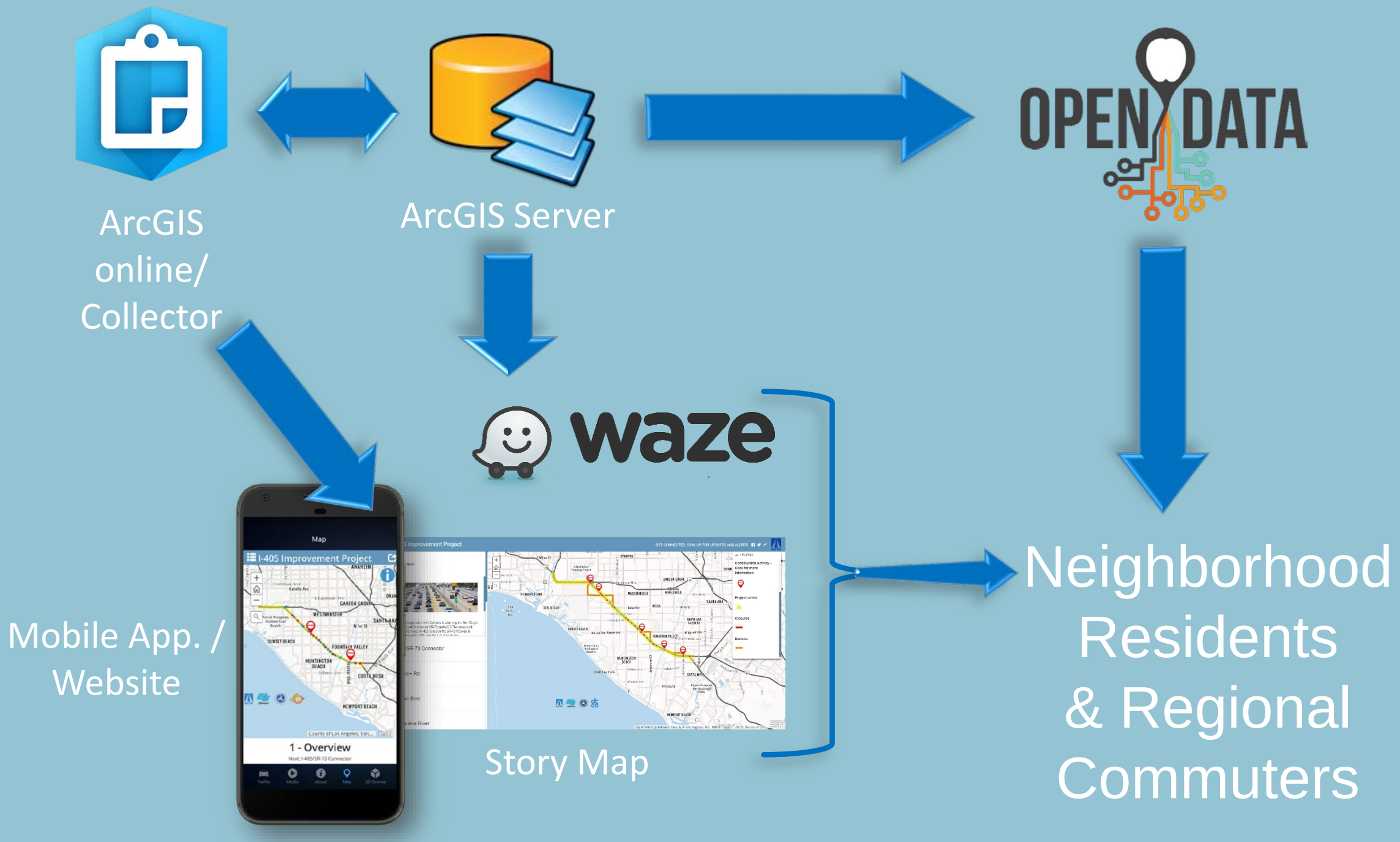


Sharing data with Waze

User-reported incidents:
Accidents, traffic jams, hazards, construction, potholes, stopped vehicles, objects on road

Waze Map Editor: Browser based waze map

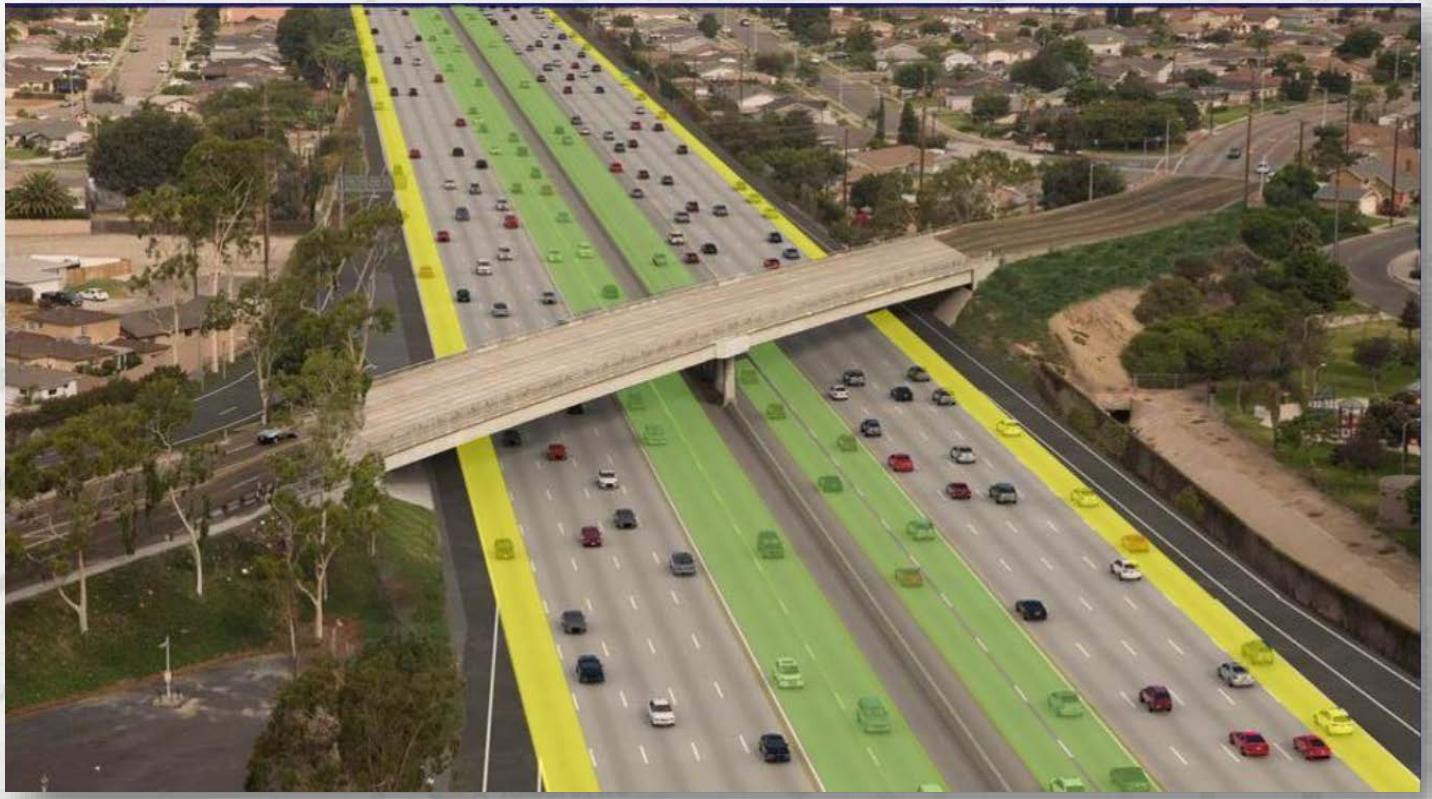
Data feed from ArcGIS Online:
Closures and Construction attributes become actionable for navigation on Waze


ArcGIS online/ Collector
ArcGIS Server
OPEN DATA
waze
Mobile App. / Website
Map
I-405 Improvement Project
1 - Overview
Story Map
Neighborhood Residents & Regional Commuters

ArcGIS Online & Waze Integration Lessons Learned

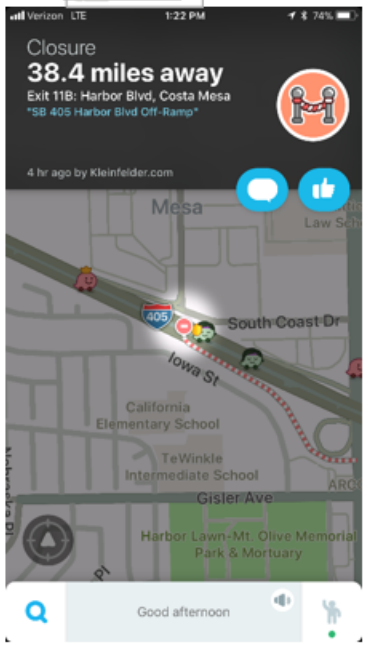
Data Service Feed:

- Hosted vs. Published
- Time zone Issues
- Data Formatting
- Anomalies
  - Persistent Closures



OCTA

ArcGIS Online & Waze Integration Lessons Learned

4/24 – 4/25/18	NB 405 Harbor Blvd. On-Ramp	4/24: 10:00am – 2:00pm	4/24: **No**	4/24: **Yes**	4/24: **Not Visible** **Remained Visible After 2:00pm**	4/24: **1:21pm** 	**1:22pm** 
		4/25: 10:00pm – 2:00am	4/25:	4/25:	4/25:	4/25: 	

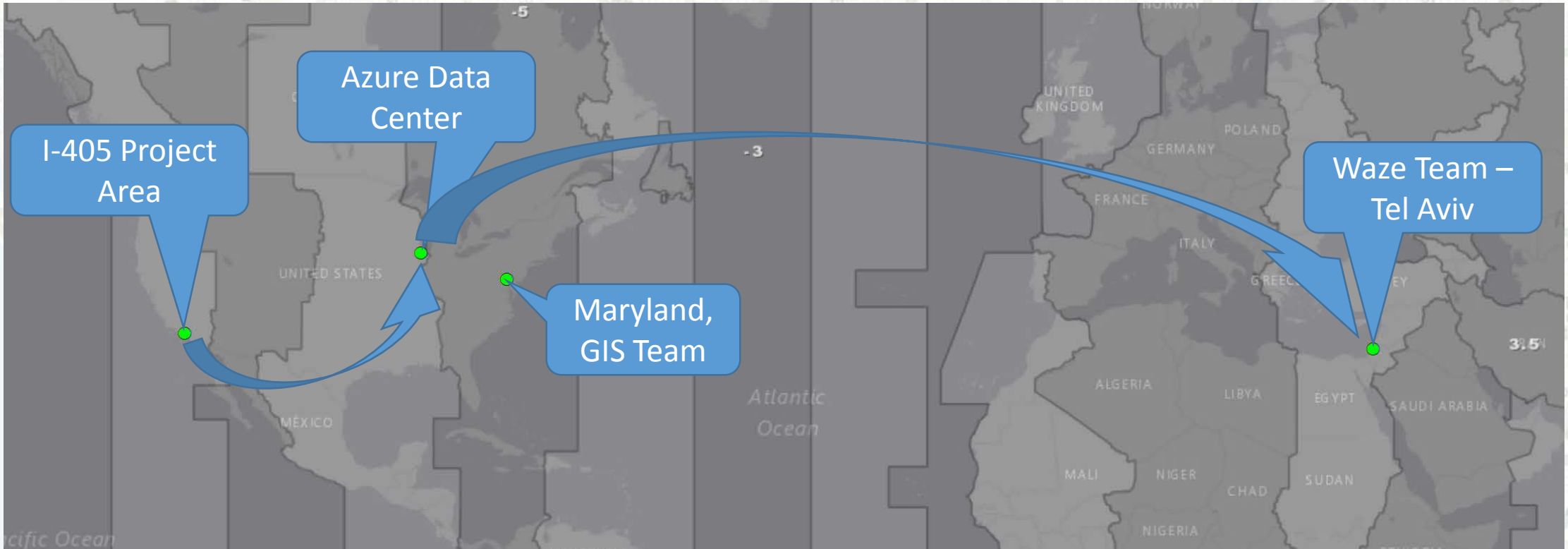
ArcGIS Online & Waze Integration Lessons Learned

Hosted Feature Service:

- **Prevented data updates** after REST Admin schema changes page
- **Appending limits** to hosted feature layer checkout
- **Losing sync functionality** when zooming during desktop edits on checkout
  (Esri Support Ticket – possible bug)
- **Time zone synchronization** issues between Input vs. database vs. Waze

ArcGIS Online & Waze Integration Lessons Learned

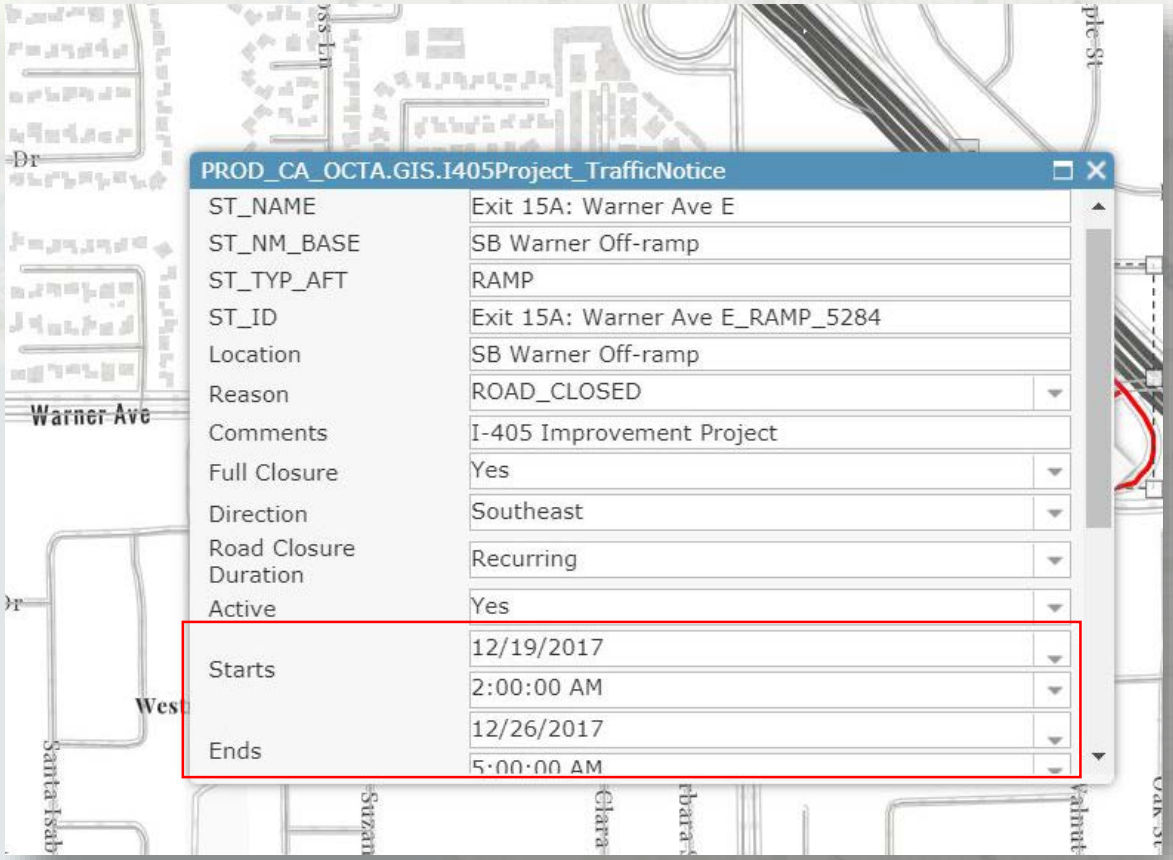
- Timezone sync issues – shows up too early or staying on too late
- Waze – preferred format: yyyy-MM-dd'T'HH:mm:ss+HH:mm
- Daylight Savings Time shift Los Angeles GMT = **-8** hrs. DST = **-7** hrs.



ArcGIS Online & Waze Integration Lessons Learned

- Original hosted web service data feed Used the default date/time field

ArcGIS Online View



JSON View


```
{
  "attributes" : {
    "OBJECTID" : 5125,
    "ST_NAME" : "Exit 15A: Warner Ave E",
    "ST_NM_BASE" : "SB Warner Off-ramp",
    "ST_TYP_AFT" : "RAMP",
    "ST_ID" : "Exit 15A: Warner Ave E_RAMP_5284",
    "location_description" : "SB Warner Off-ramp",
    "TYPE_" : "ROAD_CLOSED",
    "description" : "I-405 Improvement Project",
    "FULLCLOSE" : "Yes",
    "DIRECTION" : "Southeast",
    "BLOCKOCCUR" : "Recurring",
    "ACTIVE" : "Yes",
    "STARTDATE" : 1513666800000,
    "ENDDATE" : 1514282400000,
    "CONTACT" : "TEST LOCATION 5",
    "created_user" : "BMyers_KLF",
    "created_date" : 1510250461000,
    "last_edited_user" : "LSelleck_KLF",
    "last_edited_date" : 1510252936000,
    "Shape__Length" : 0.00400671,
    "GlobalID" : "212aea00-03ad-4264-acb0-5fe3e6891e9f",
```

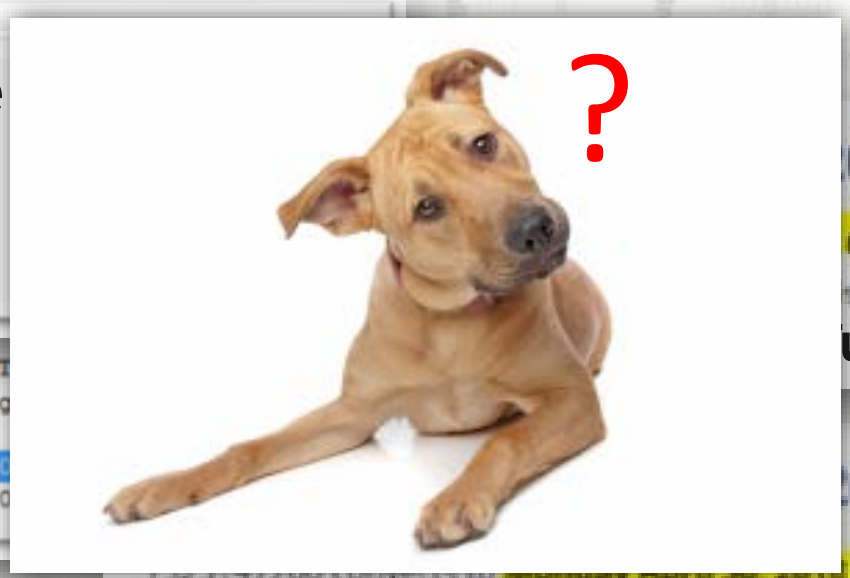
ArcGIS Online & Waze Integration Lessons Learned

- Testing Input on ArcGIS Online from Eastern Daylight Savings Time (EDT)
- Posted timestamp were not converting properly

ArcGIS Online

Contact Information	
Starts	5/1/2018, 0:00
Ends	5/5/2018, 0:00


```
"DIRECTION": "ONE_DIRECT
"BLOCKOCCUR": "Recurring
"ACTIVE": "Yes",
"STARTDATE": 1525147200
"ENDDATE": 1525492800000
```

Epoch Time Convert (EDT)

00:00:00 (am) in time zone **America/New York (EDT)**
s -04:00 or in seconds -14400.
uesday May 01, 2018 00:00:00 (am)

Epoch Time Convert (PDT)

21:00:00 (pm) in time zone **America/Los Angeles (PDT)**
s -25200.
30, 2018 21:00:00 (pm)

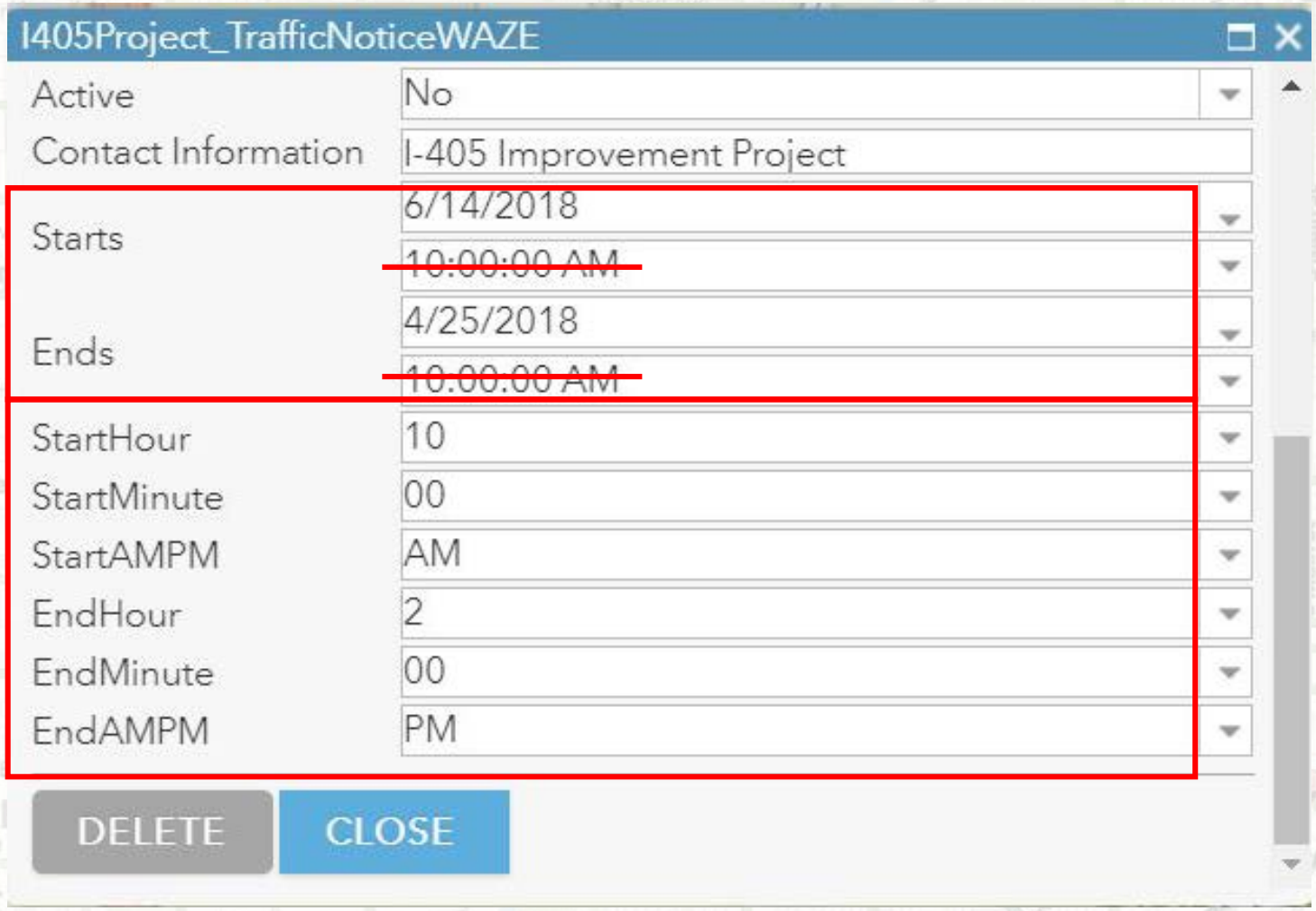
Waze Time Conversion

start_time ➔ 04-30-2018 16:00:00 GMT (-8 hrs) **– No Daylight Savings**
expected_end_time ➔ 05-04-2018 22:00:00 GMT (-2 hrs) **- incorrect time**

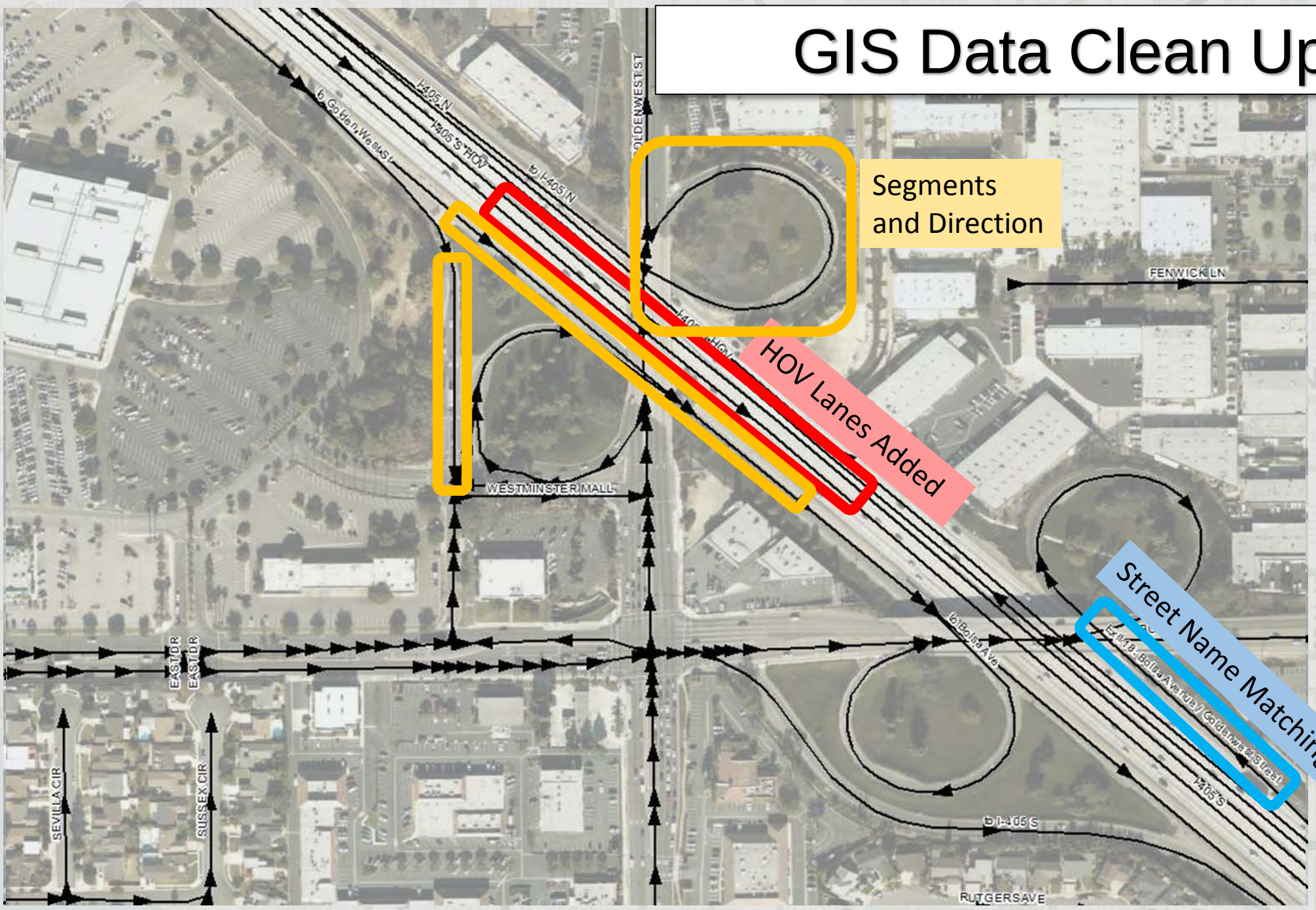
ArcGIS Online & Waze Integration Lessons Learned

Data Service Feed Solution:

- **Published Service**
  - **Set Timezone**
  - **Parsed Date and Time**
- **Success!?!**
  - **More predictable output**
  - **Still have a few anomalies**



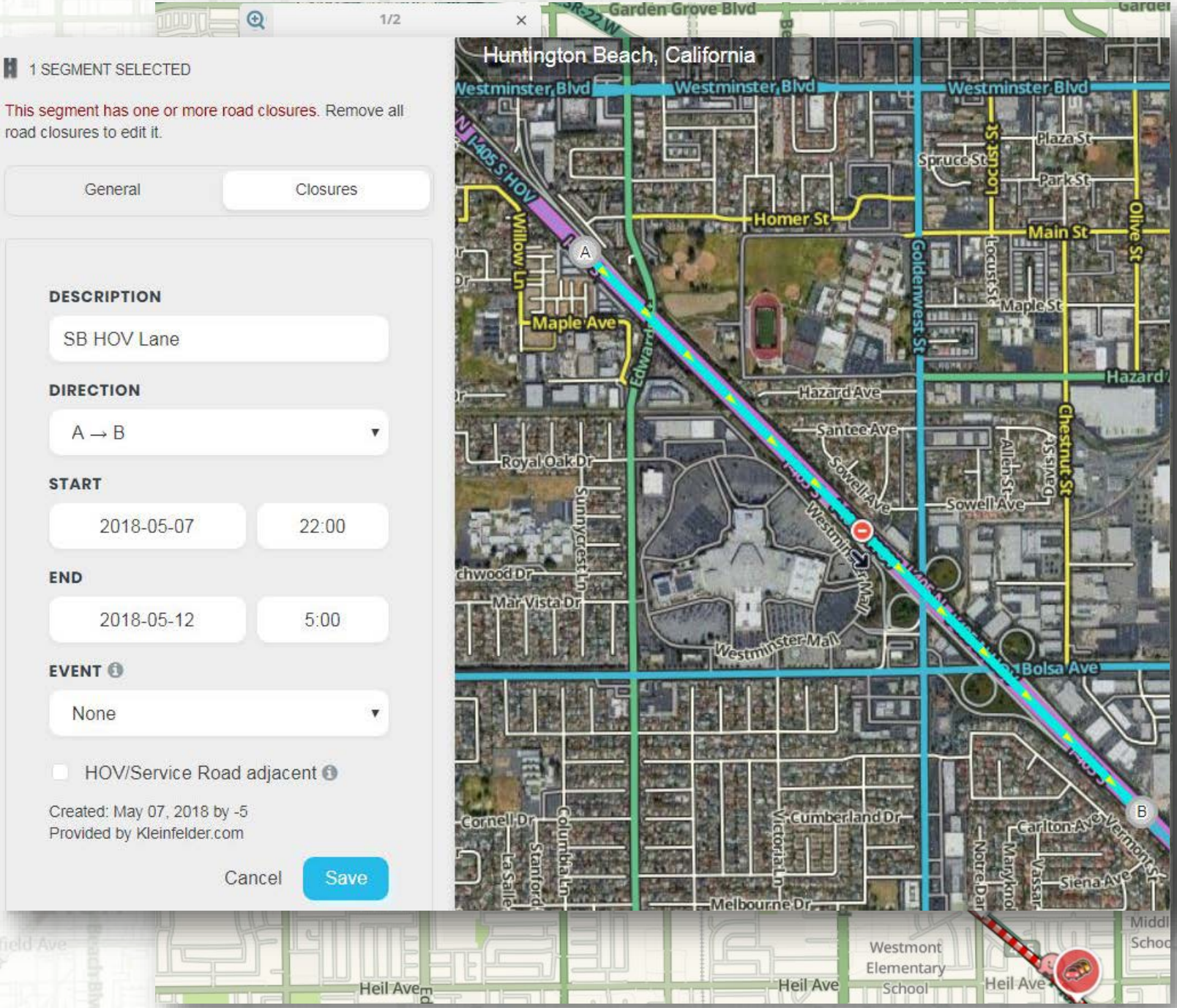
GIS Data Clean Up



ArcGIS Online & Waze Integration Lessons Learned

Data Service Feed:
Persistent Closures

- Turned off service
- Checked Waze Map Editor (WME)
- Closures unexpectedly migrated to WME
- Eventually allowed to delete




Keys to Success
90Z295

Keys to Success

- Leverage data thru ArcGIS Online
- Plan ahead and test
- Don’t reinvent the wheel
- Be inspired to try something new

5

CONTACT US

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afinlay@Kleinfelder.com

DISCUSSION & QUESTIONS