



# ALAMO MASTER PLAN - TRAFFIC STUDY

## UPDATED WITH HOUSTON STREET CLOSURE

Presented by  
**Pape-Dawson Engineers, Inc.**

July 2018



# STUDY BACKGROUND

- The Alamo Plaza closure is being reviewed in the context of an overall Downtown Transportation Study conducted in 2012 and updated in 2017.
- The purpose of the Downtown Transportation Study was to create a traffic model of all downtown streets and adjacent arterials to determine the capacity of the downtown network and the impacts of development growth and proposed street projects.
- Projects like Santa Rosa improvements, Cesar Chavez/Santa Rosa intersection improvements, Main & Soledad two-way conversion, San Pedro Creek bridges rebuild, San Pedro/Main Roundabout, South Alamo Complete Street, Commerce Complete Street, and the Broadway improvements from Houston St. to Josephine St. were included to determine impacts to the area.

# STUDY BACKGROUND

- The study and traffic counts were updated in 2017 to review 2012 assumptions.
- The closing of Alamo Plaza and Houston St. as proposed by the Alamo Master Plan were then studied in the context of this overall Downtown Transportation Study.
- The following slides are excerpts from the overall Downtown Transportation Study results.

# STUDY ALAMO TRAFFIC IN THE CONTEXT OF DOWNTOWN STREET NETWORK

## Overall Downtown Transportation Study

- A model of all downtown streets and adjacent arterials during peak hours.
- Created in 2012 and updated in 2017

## A Tool to Predict Impacts of Natural Growth & Proposed Projects

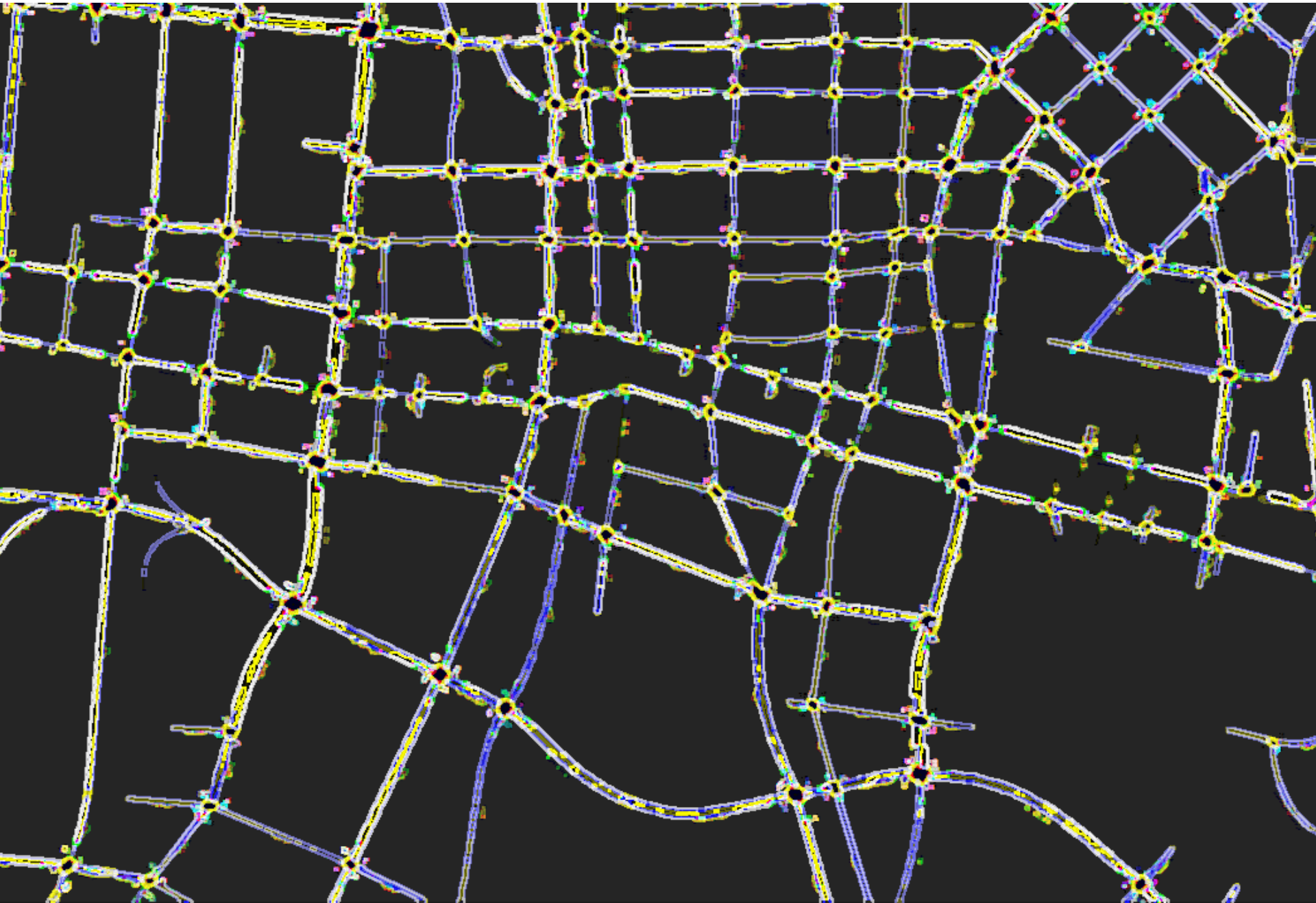
- Santa Rosa Improvements
- San Pedro Creek Bridges Rebuild
- South Alamo Complete Street
- Broadway Complete Street

## Solutions for the Closure of Alamo Plaza & Houston Street

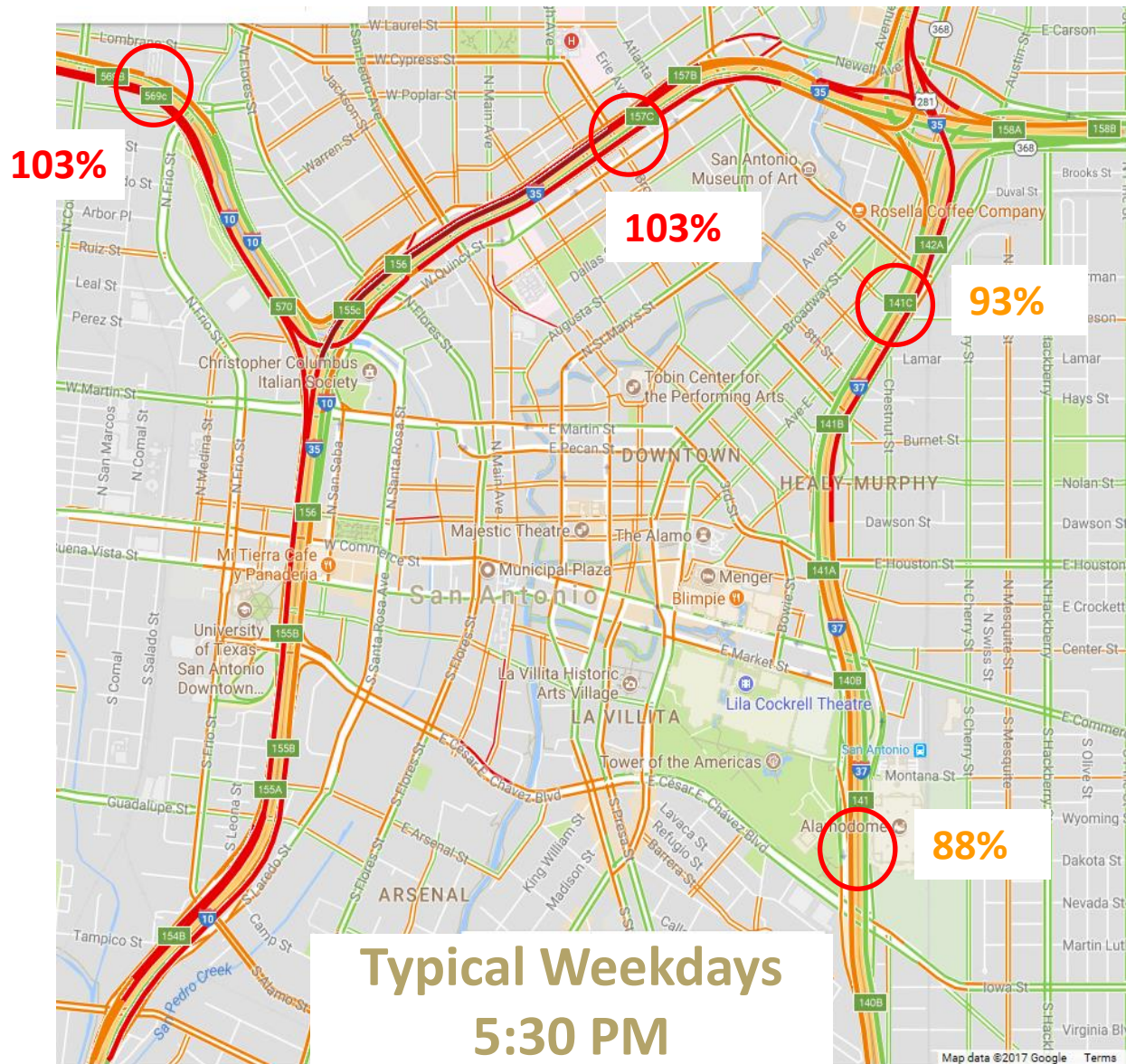
- Closures proposed by the Master Plan
- Examined in the context of overall Downtown Transportation Study
- Estimate impacts
- Provide solutions



# SCREENSHOT – DOWNTOWN TRAFFIC SIMULATION MODEL



# EXISTING CONDITION – FREEWAYS ARE AT CAPACITY



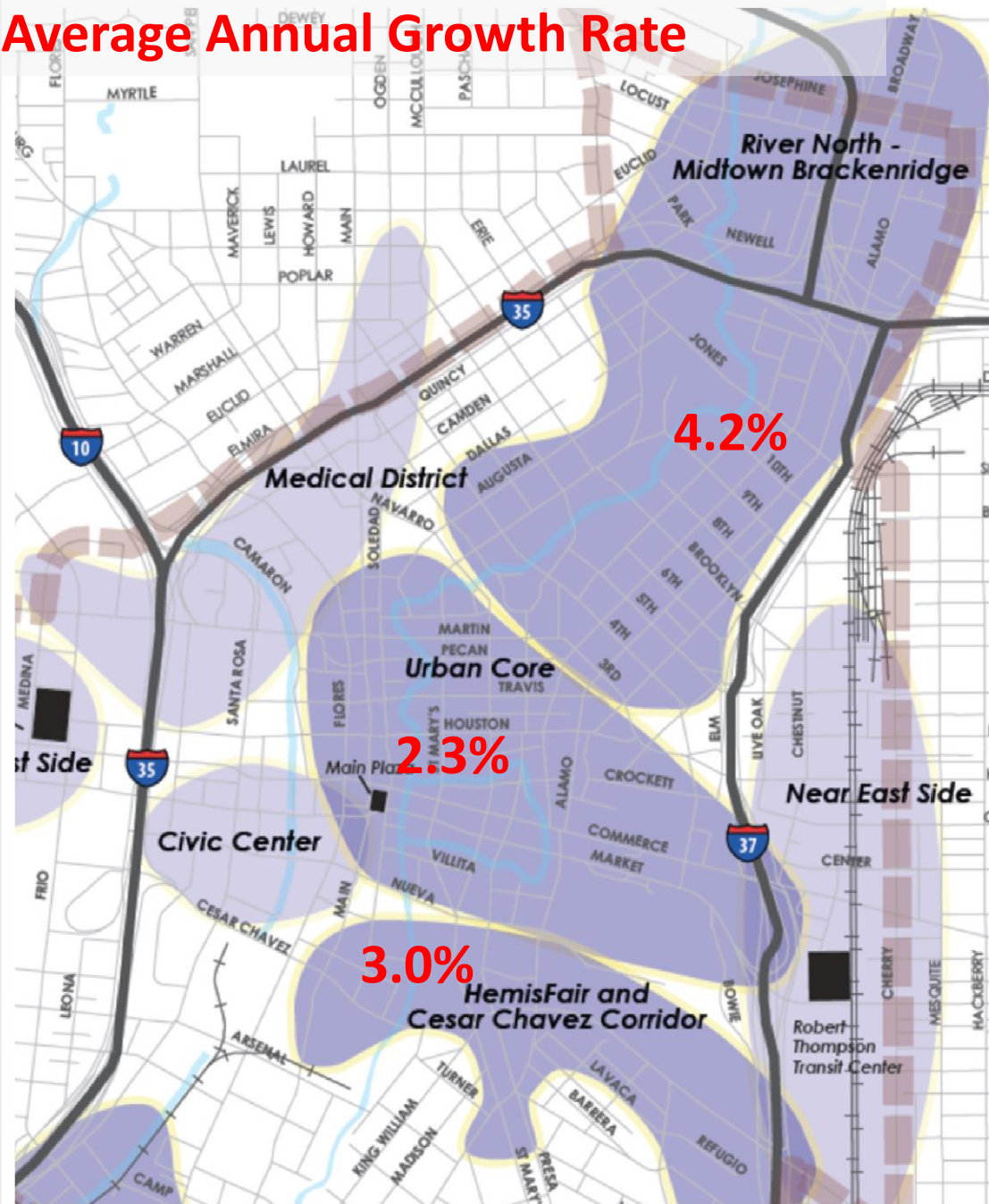


# TRAFFIC VOLUMES INCREASED FROM 2012

*BUT NOT AS FAST AS  
EXPECTED*

Growth is Half  
the Rate  
Projected in  
2012

## Average Annual Growth Rate



# 2017 DOWNTOWN ACCESS

- All Major Gateway Arterials Available Capacity
- Provides for Approximately 15 – 16 More Frost Towers (460,000 SqFt)



Frost Tower

= 6 X

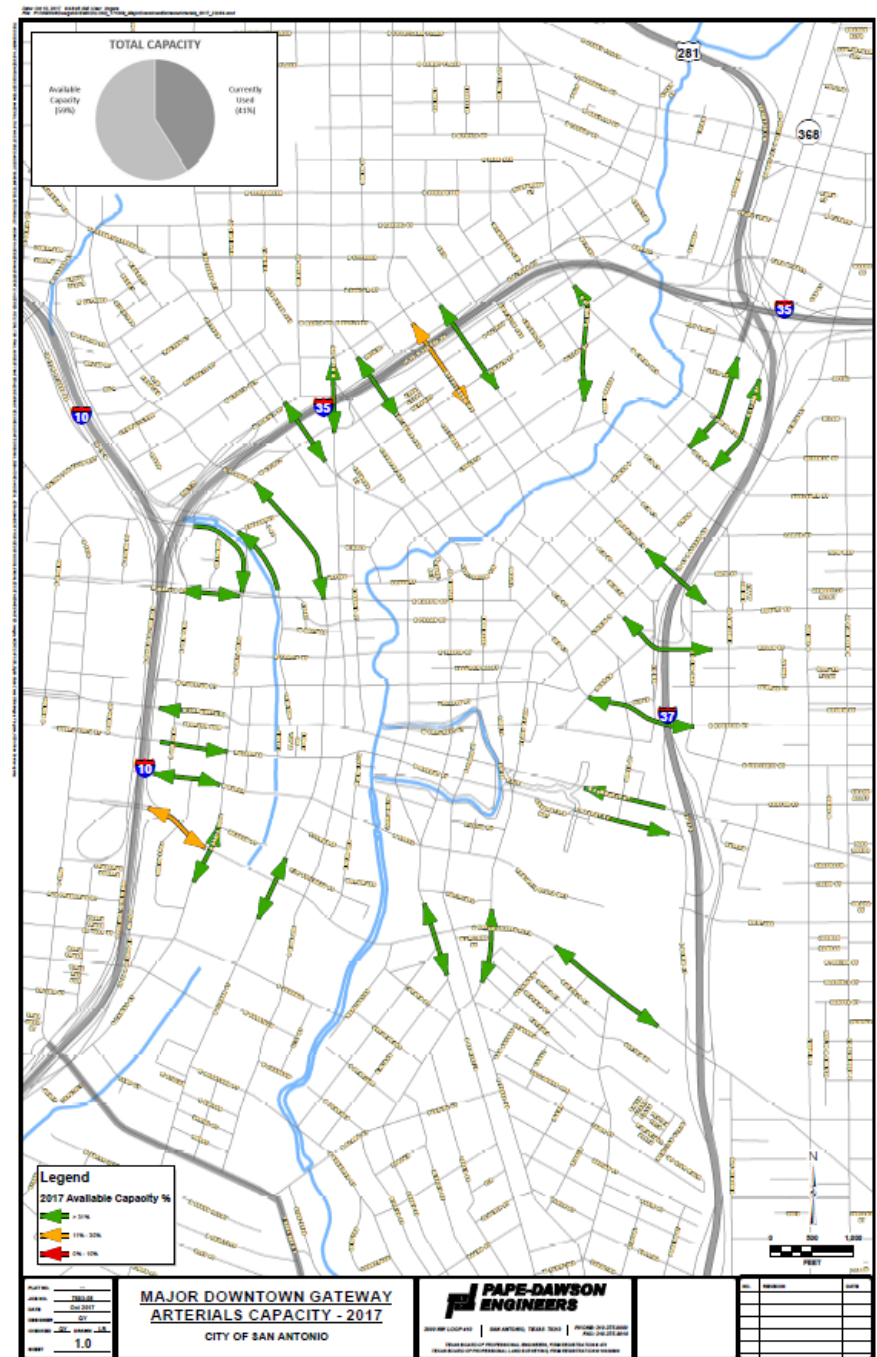


Hilton Canopy



Frost Tower

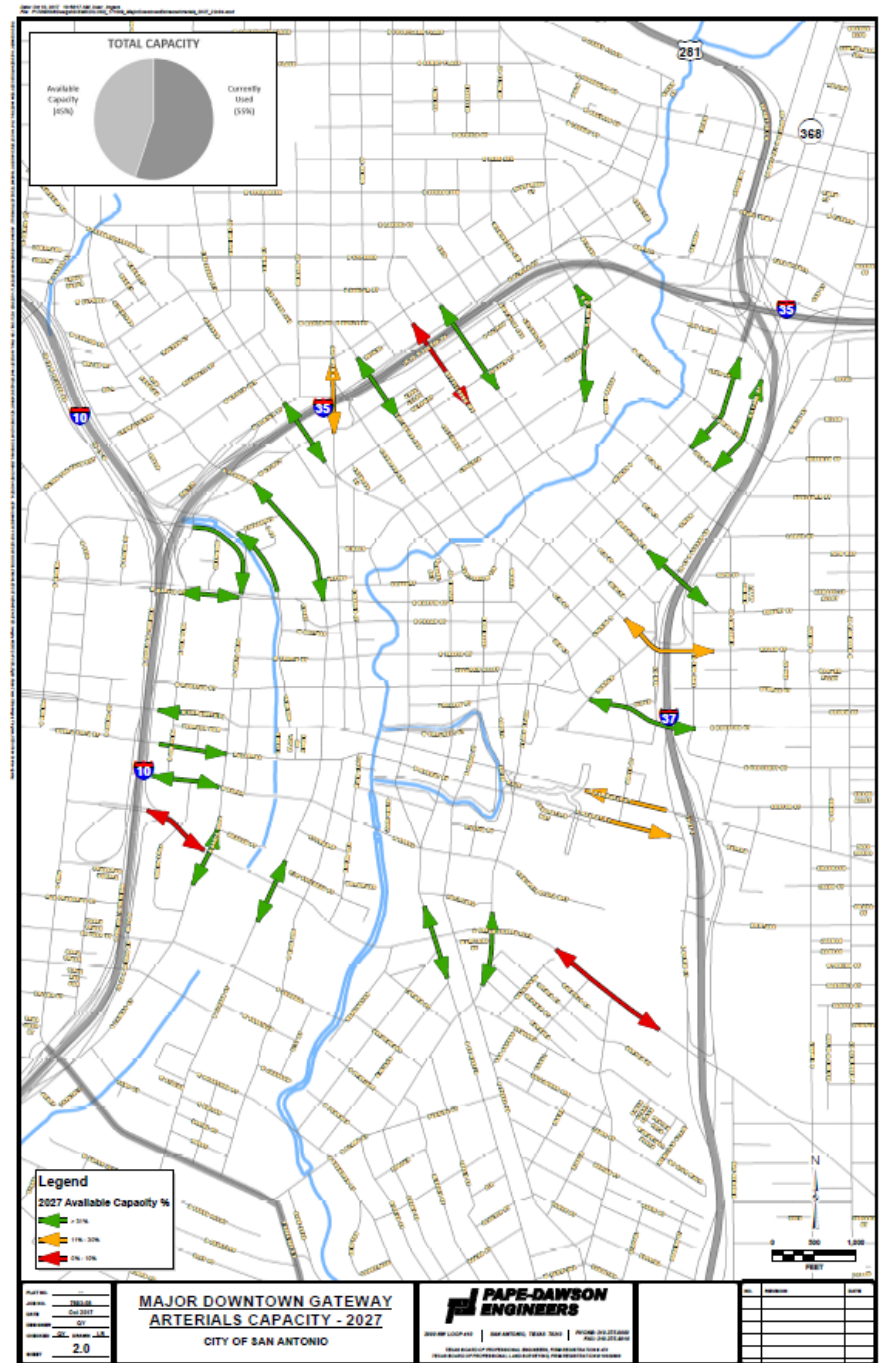
= 1,300  
Apartments





# 2027 DOWNTOWN ACCESS

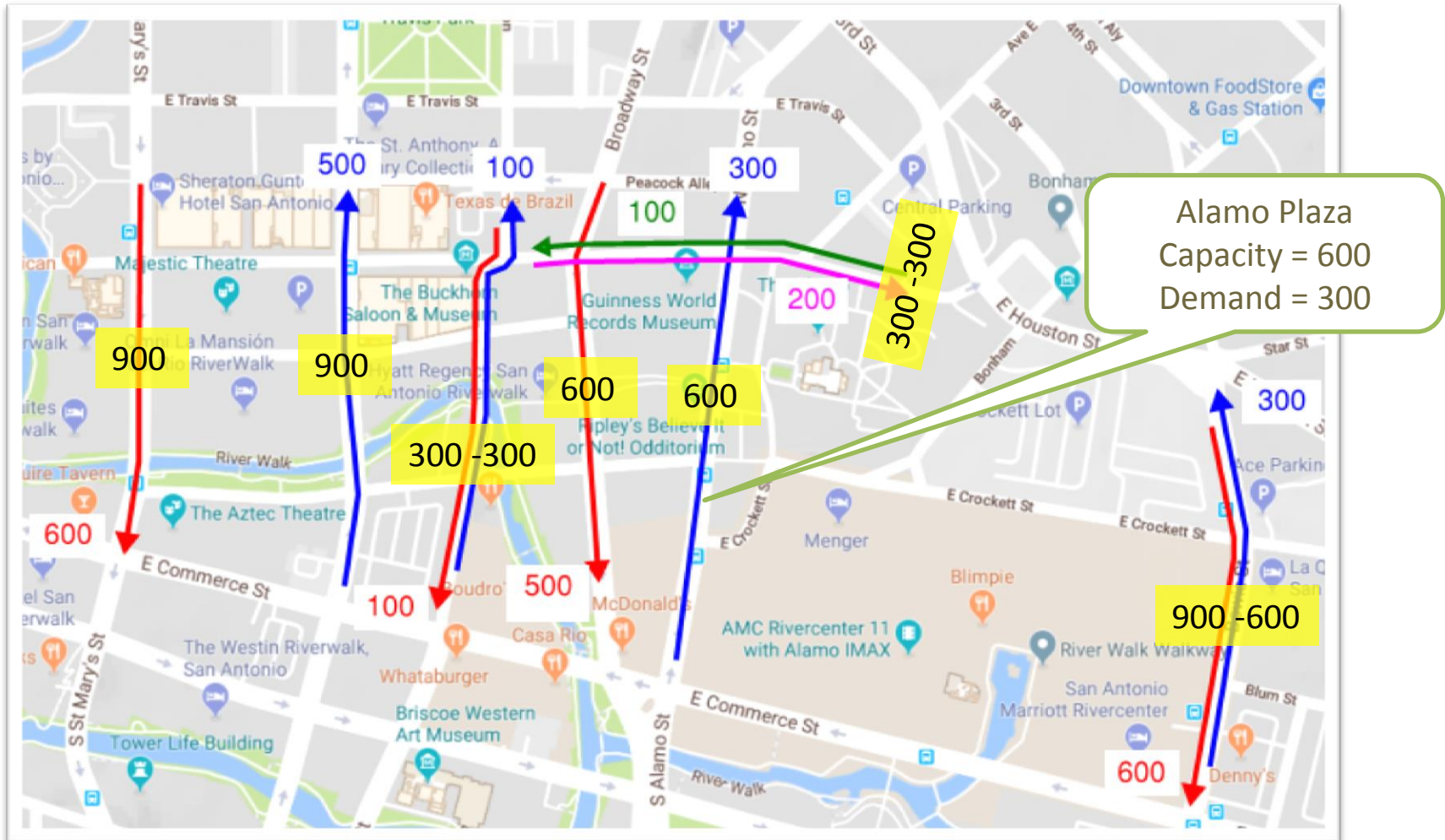
- With 3.0% Annual Growth (The Average Growth Rate from 2012 to 2017)
- All Major Gateway Arterials Available Capacity will Provide for Approximately 12 More Frost Towers in 2027





# EXISTING VOLUMES AND CAPACITIES BETWEEN TRAVIS ST. AND COMMERCE ST.

## BACKGROUND



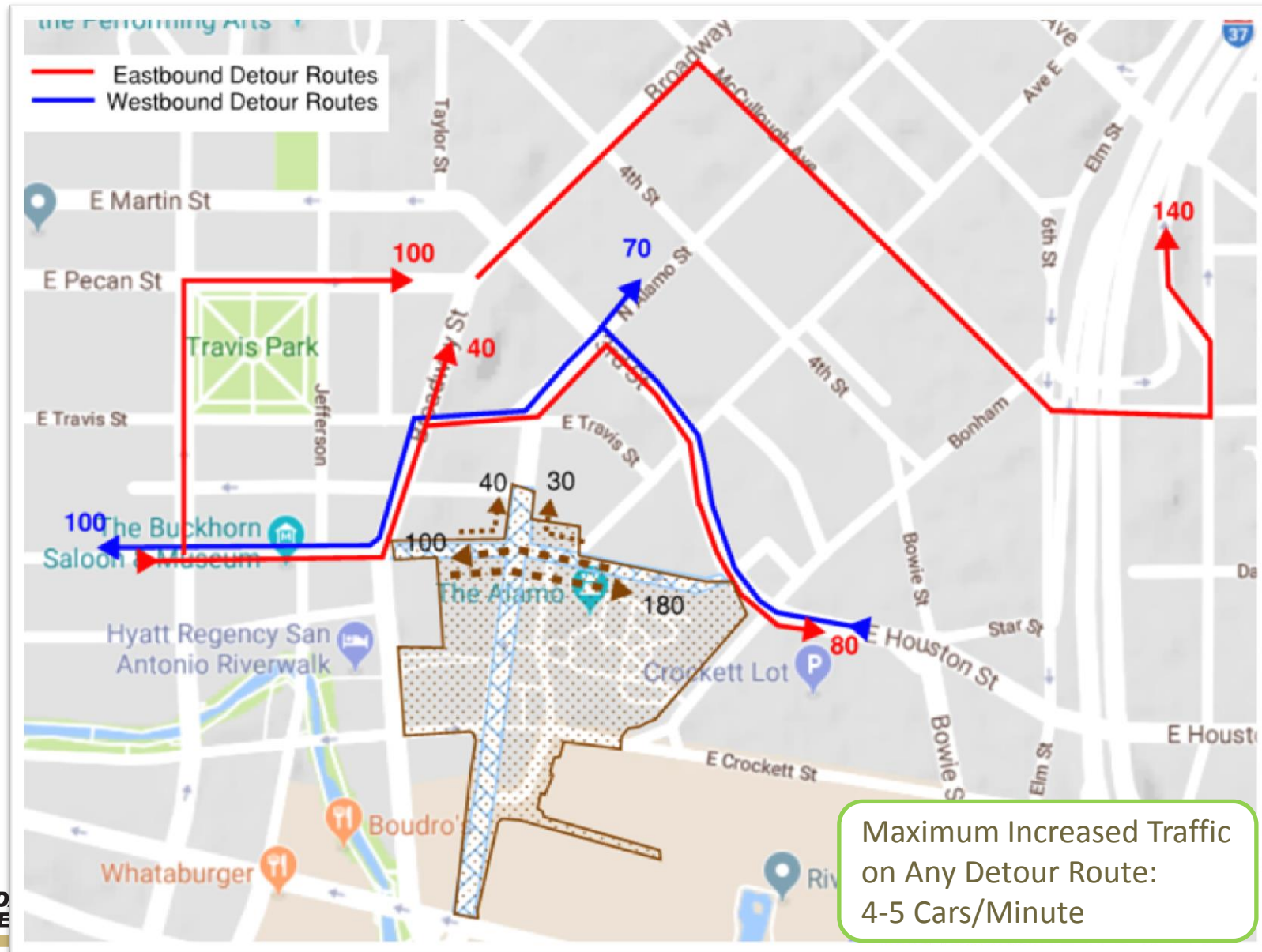
100: Existing Northbound Traffic Volume  
 100: Existing Southbound Traffic Volume  
 100: Existing Street Capacity

Between Travis and Commerce

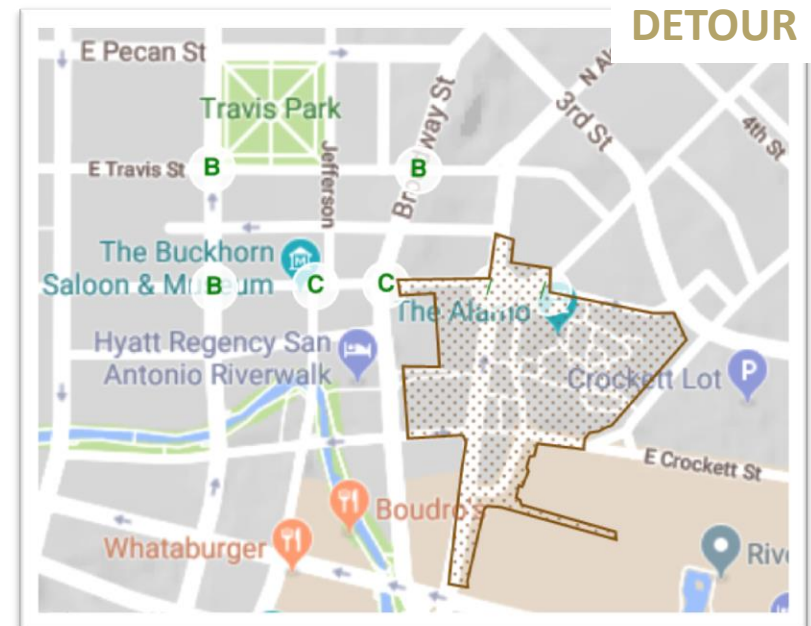
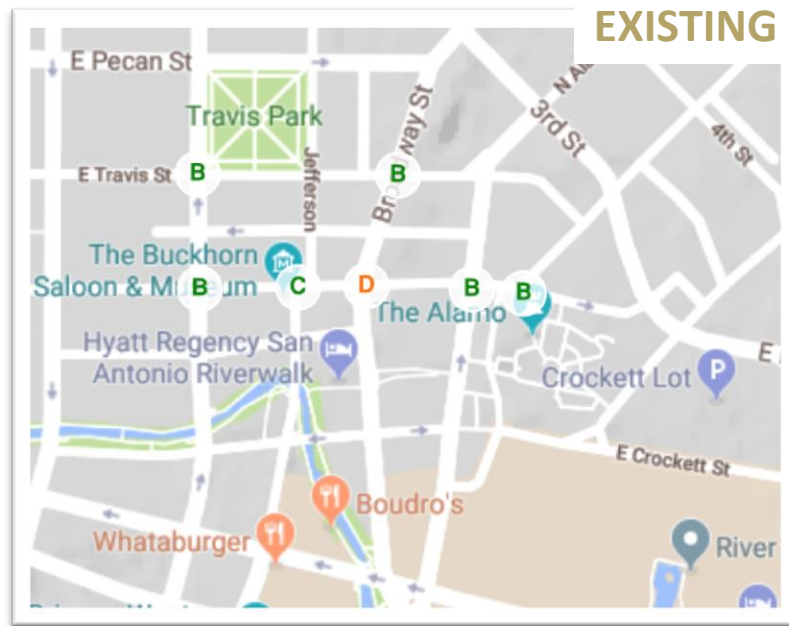
- SB Capacity = 2700 Vehicle/Hour
- SB Peak Hour Demand = 1800 Vehicle/Hour
- NB Capacity = 2400 Vehicle/Hour
- NB Peak Hour Demand = 1200 Vehicle/Hour



# DETOUR ROUTES & PEAK HOUR VOLUMES EAST & WEST – HOUSTON STREET



# CAPACITY & CRITICAL INTERSECTIONS LEVEL OF SERVICE



Closing Houston Street will

- Spread Traffic to Less Congested Streets
- Simplify Movements & Reduce Traffic in Critical Intersections
- Result in the Same or Better Level of Service

# A Much Needed North-South Corridor

A map snippet showing a street grid. A thick orange line runs diagonally from the top-left to the bottom-right, labeled "Broadway (Two-Way)". To the right of this line, a vertical street is labeled "Elm St". Further to the right, another vertical street is labeled "Ave E". In the top-left corner, there is a green circular logo with a white 'C' and the text "Center for Learning Arts" below it. The bottom-left corner shows the letters "OUN" in a large, bold, sans-serif font.

S. Alamo St (Two-Way)

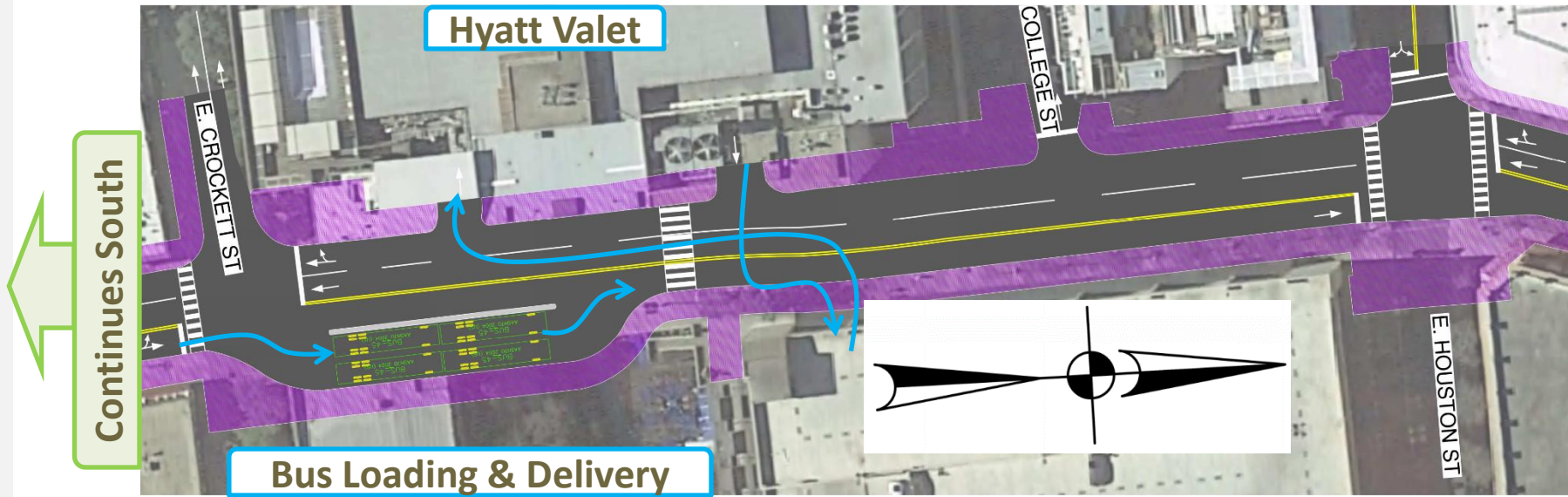




# SUFFICIENT SPACE TO MAINTAIN TWO LANES SOUTHBOUND & ADD ONE LANE NORTHBOUND

36' PAVEMENT & 12' SIDEWALK EACH SIDE

BIGGER PICTURE

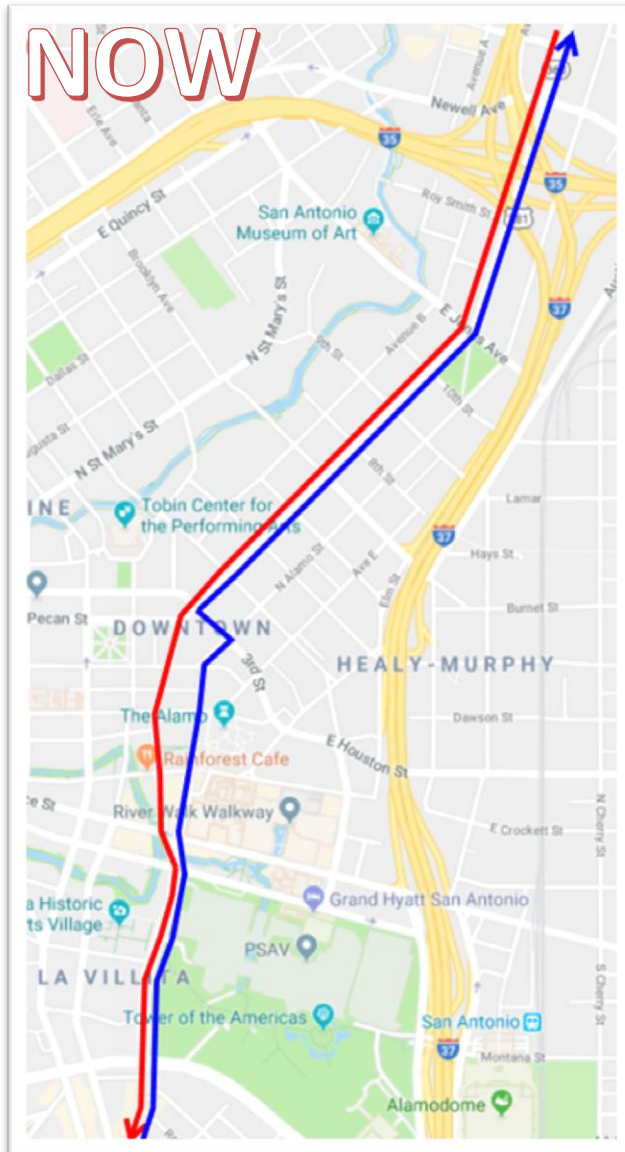


# MAINTAIN TWO LANES SOUTHBOUND & ADD ONE LANE NORTHBOUND FOR 36' PAVEMENT & 12' SIDEWALKS

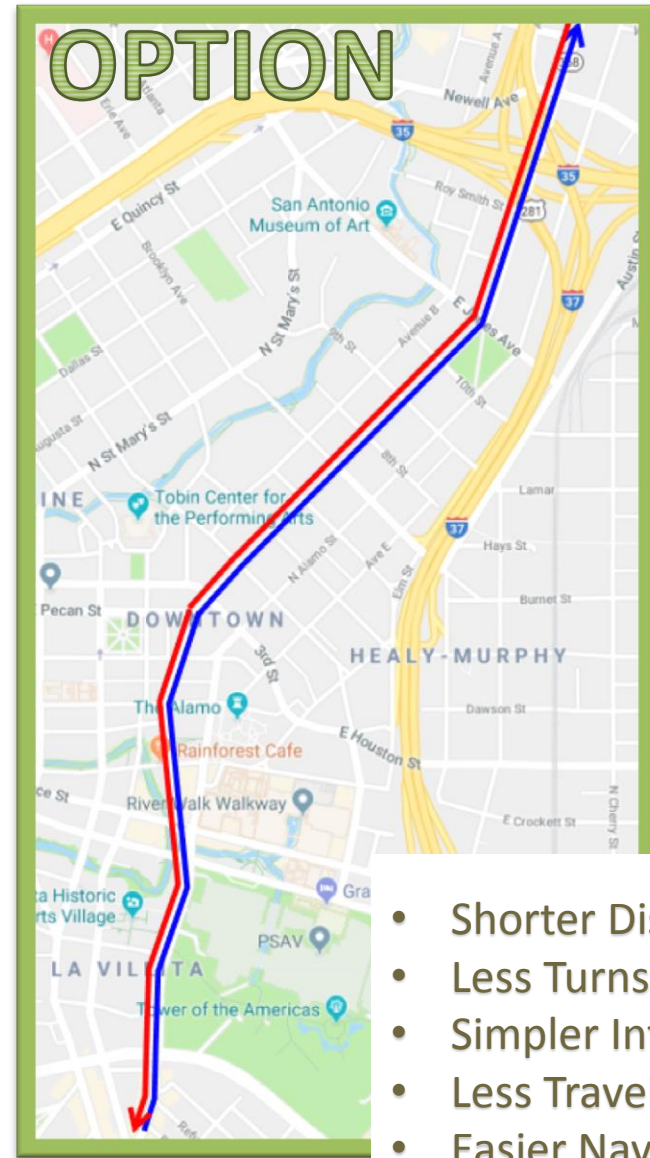


# WHAT WILL CHANGE

NOW



OPTION



Northbound

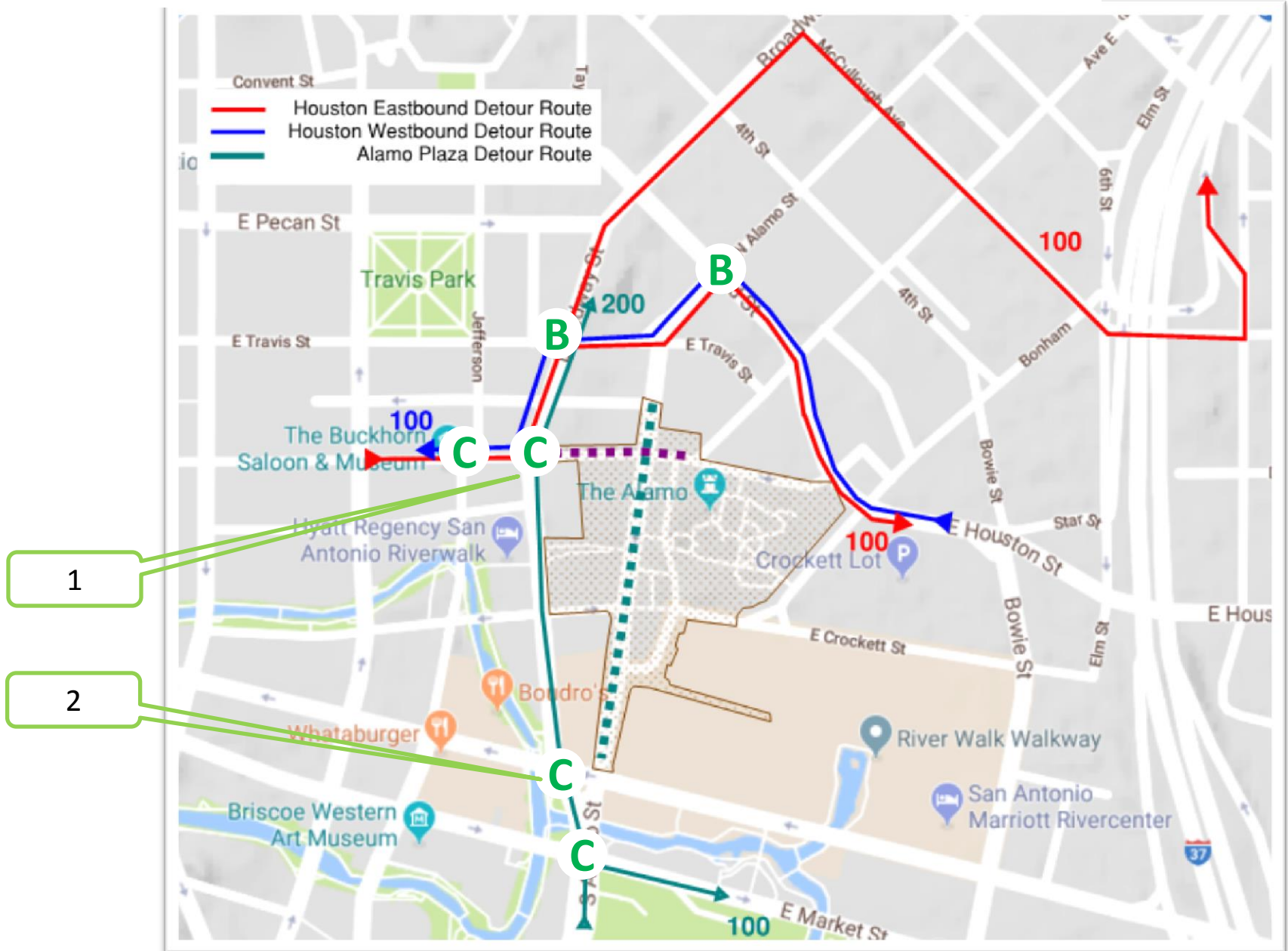
Southbound

- Shorter Distance
- Less Turns
- Simpler Intersections
- Less Travel Time
- Easier Navigation



# DETOUR – LOSOYA TWO-WAY STREET

BIGGER PICTURE



# 1. HOUSTON – LOSOYA – BROADWAY INTERSECTION

BIGGER PICTURE



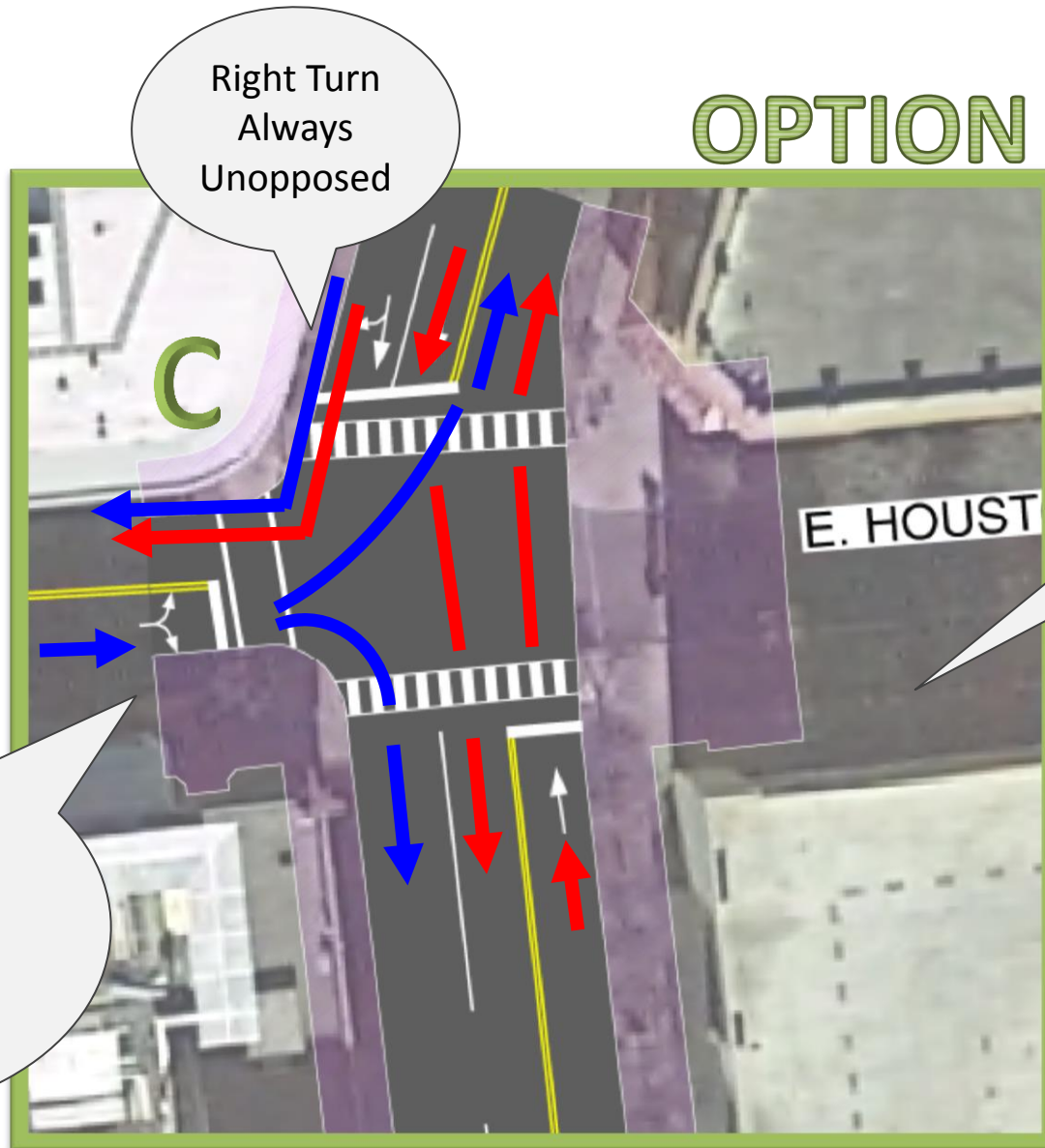
Currently, left-turn yielding can block a long queue and waste green time.



# 1. HOUSTON – LOSOYA – BROADWAY INTERSECTION

BIGGER PICTURE

OPTION



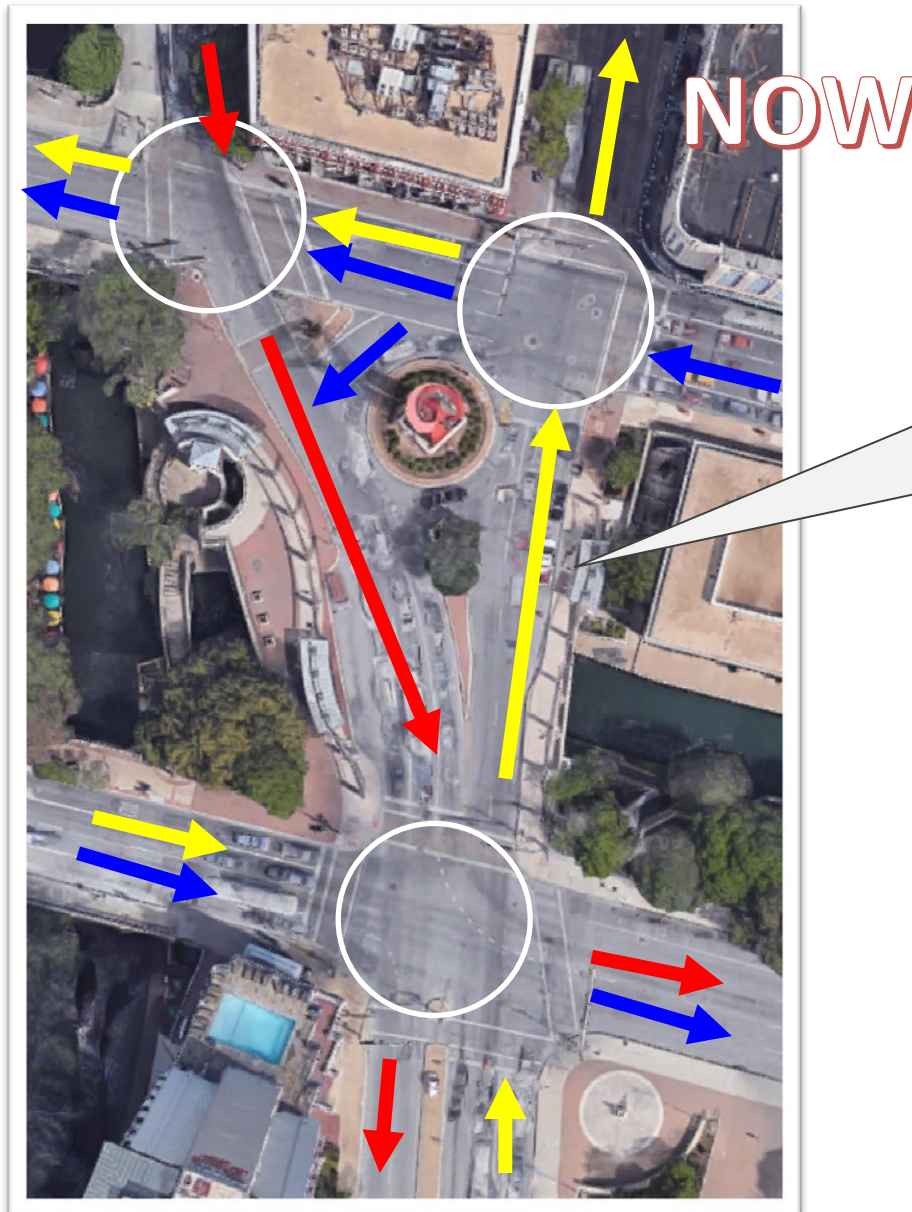
Right Turn  
Always  
Unopposed

No more  
conflicting yield-  
and-block. Two  
free movements  
take turns.

WB  
Traffic  
Removed



## 2. THE “TORCH” INTERSECTION SIMPLIFIED COMMERCE – ALAMO – LOSOYA - MARKET



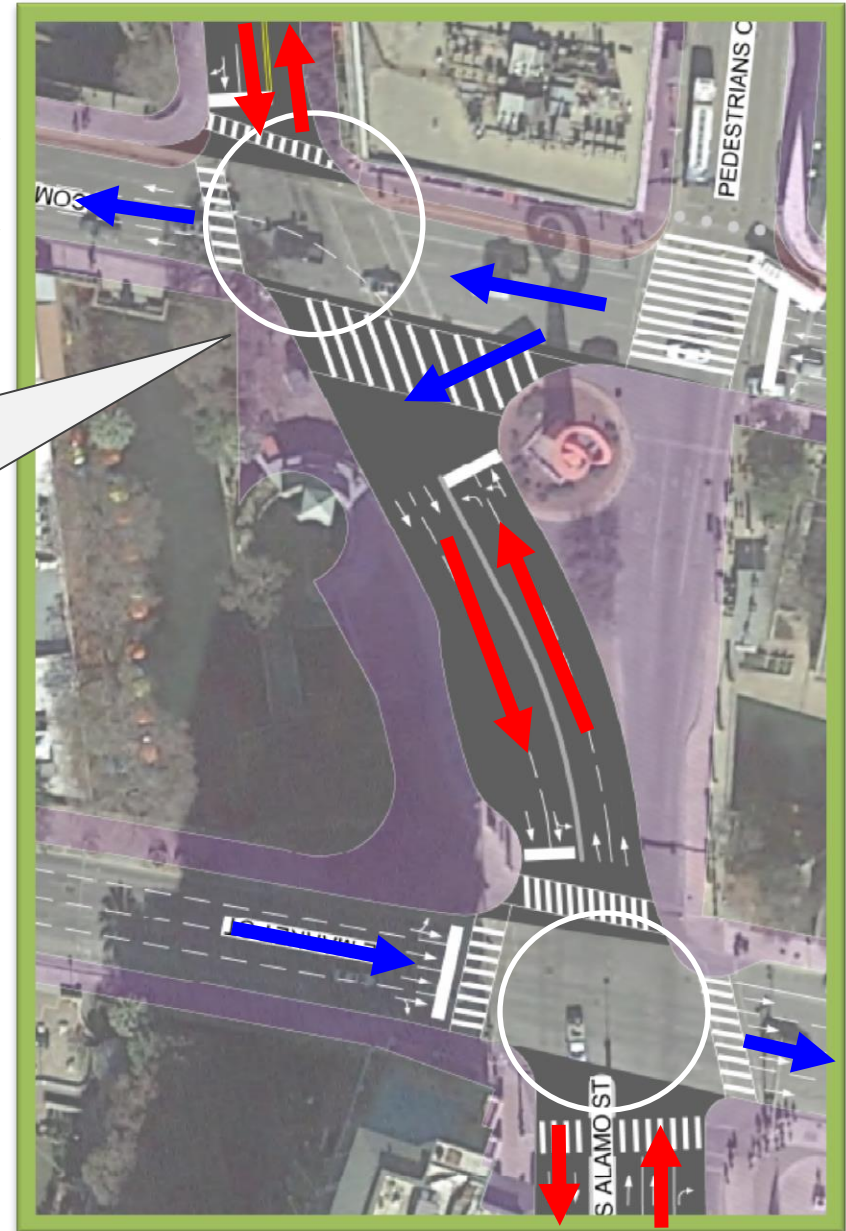
Three clustered intersections causing more stop-and-go, more waiting, and more potential collisions.

## 2. THE “TORCH” INTERSECTION SIMPLIFIED COMMERCE – ALAMO – LOSOYA - MARKET

# OPTION

Maintain Similar  
Level of Service

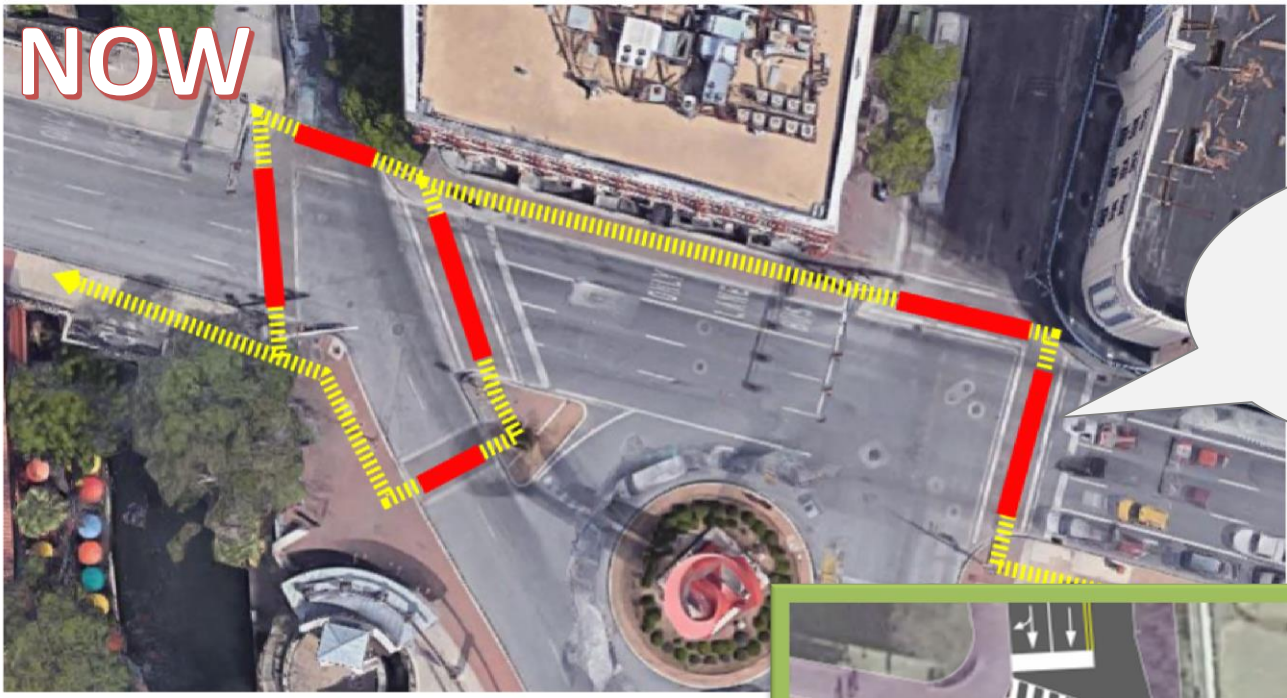
- Consolidates to two intersections.
- Maintains all movements.
- Simpler and more efficient.
- More intuitive for unfamiliar drivers.





# 2. THE "TORCH" INTERSECTION SIMPLIFIED – REDUCE PEDESTRIAN CONFLICTS

## COMMERCE – ALAMO – LOSOYA - MARKET



Have to wait and cross street FOUR times just to stay on Commerce Street.

Allows for a potential dedicated pedestrian phase to eliminate conflicts between turning vehicles and crossing pedestrians.

Much easier and safer to cross.









# City of San Antonio