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

BACKGROUND

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

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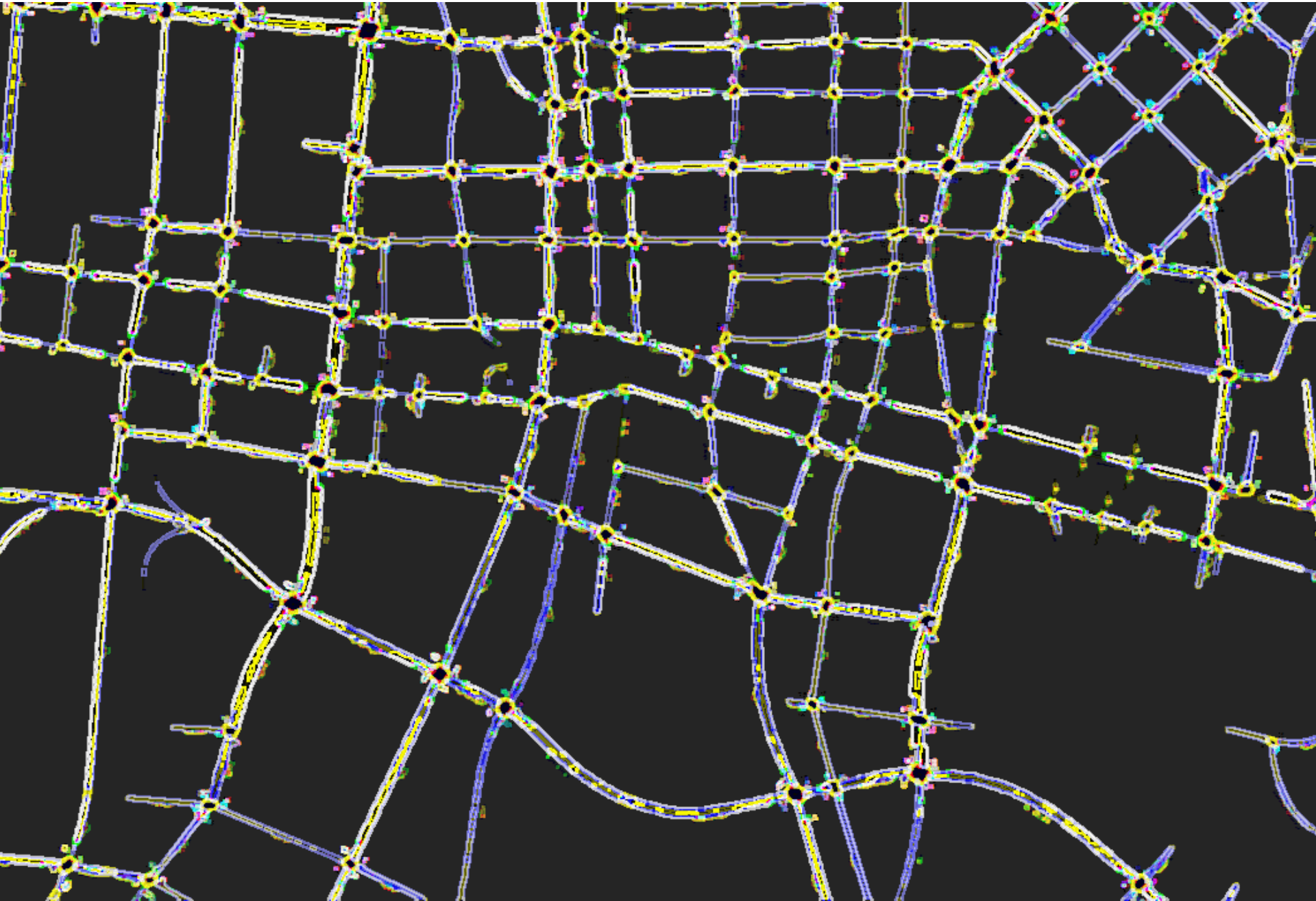
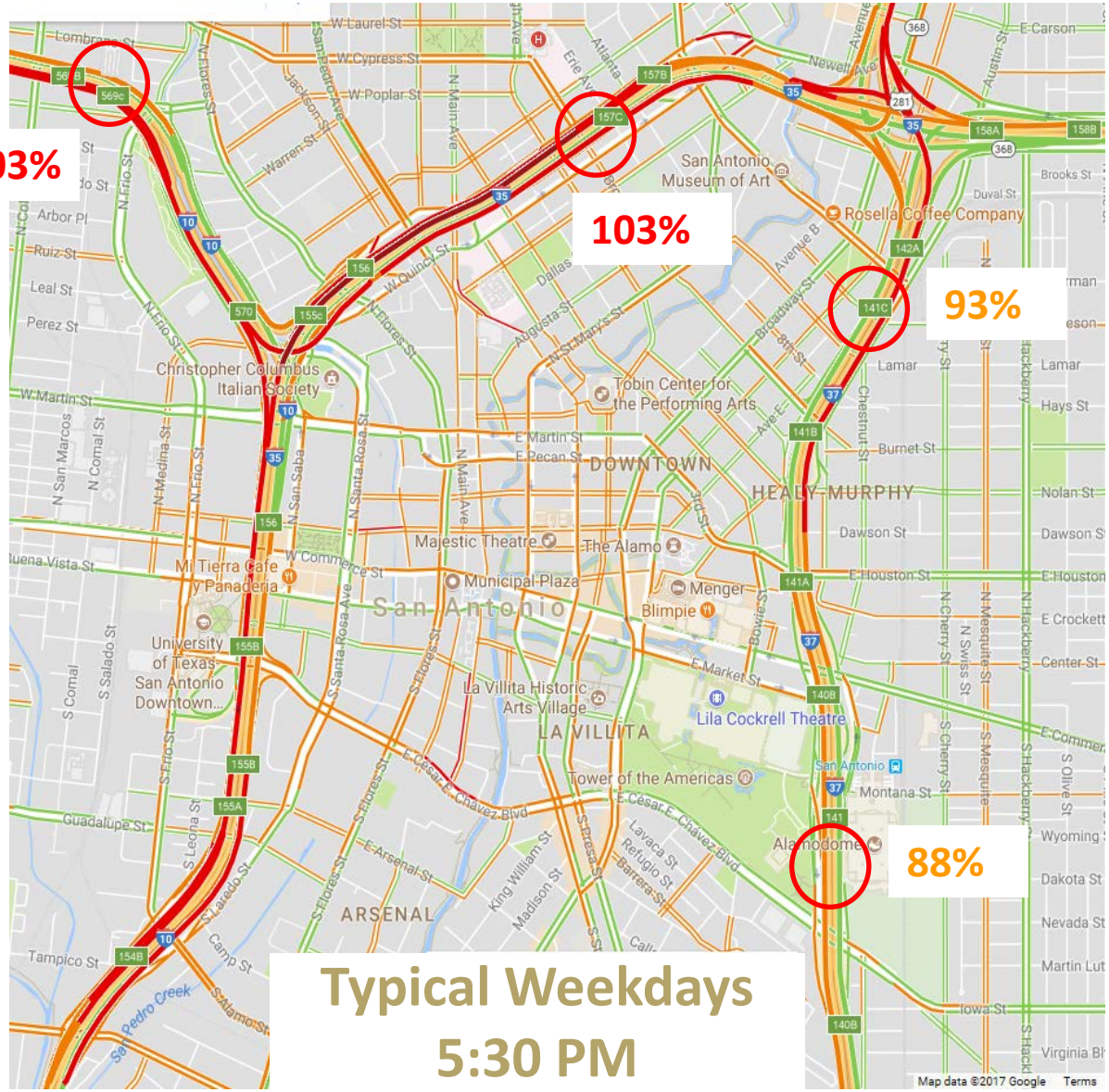
SCREENSHOT – DOWNTOWN TRAFFIC SIMULATION MODEL



EXISTING CONDITION – FREEWAYS ARE AT CAPACITY



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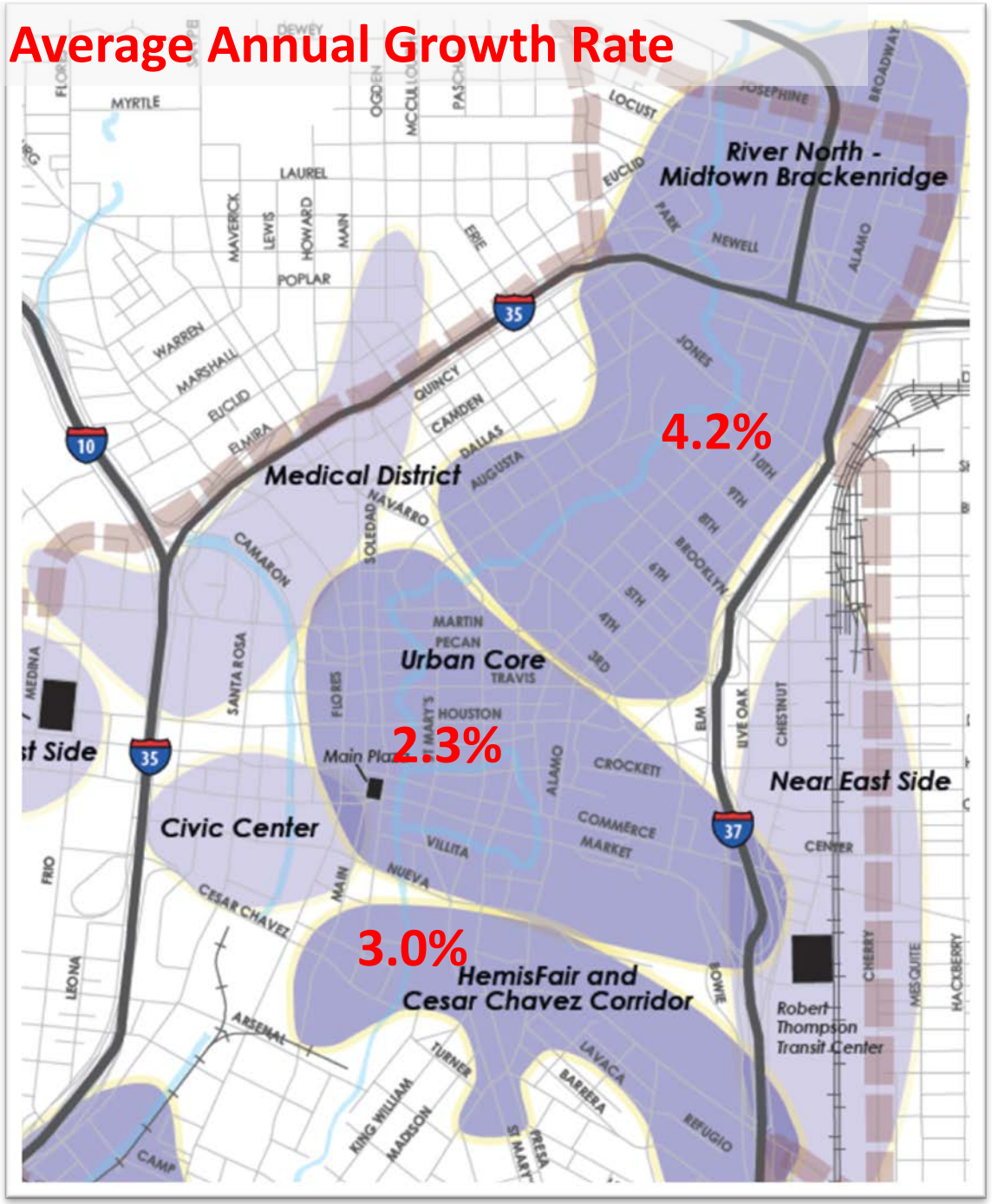
TRAFFIC VOLUMES INCREASED FROM 2012

BUT NOT AS FAST AS EXPECTED

Growth is Half the Rate Projected in 2012



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2017
DOWNTOWN ACCESS

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

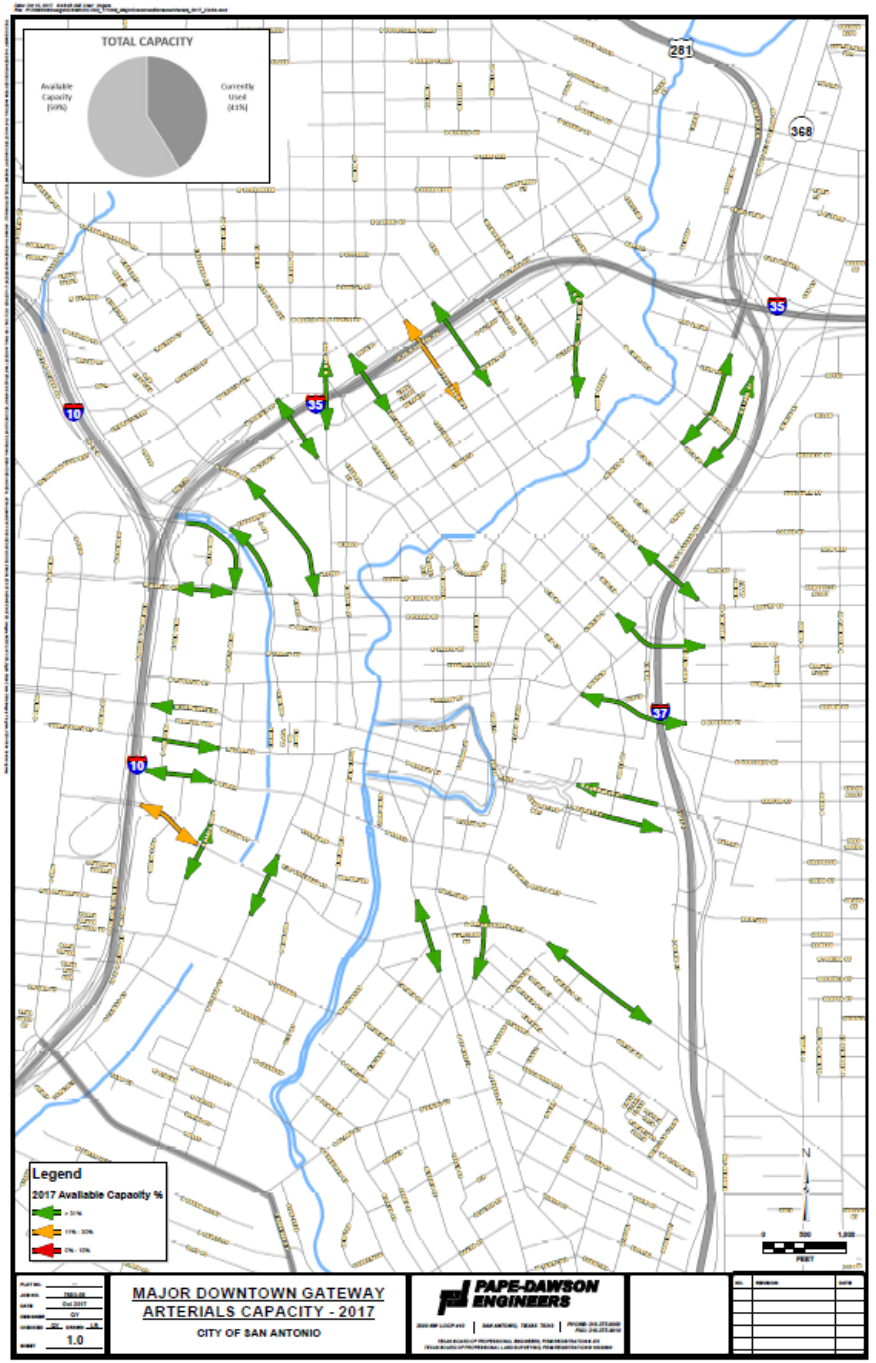
Frost Tower

= 6 X

Hilton Canopy

Frost Tower

= 1,300 Apartments



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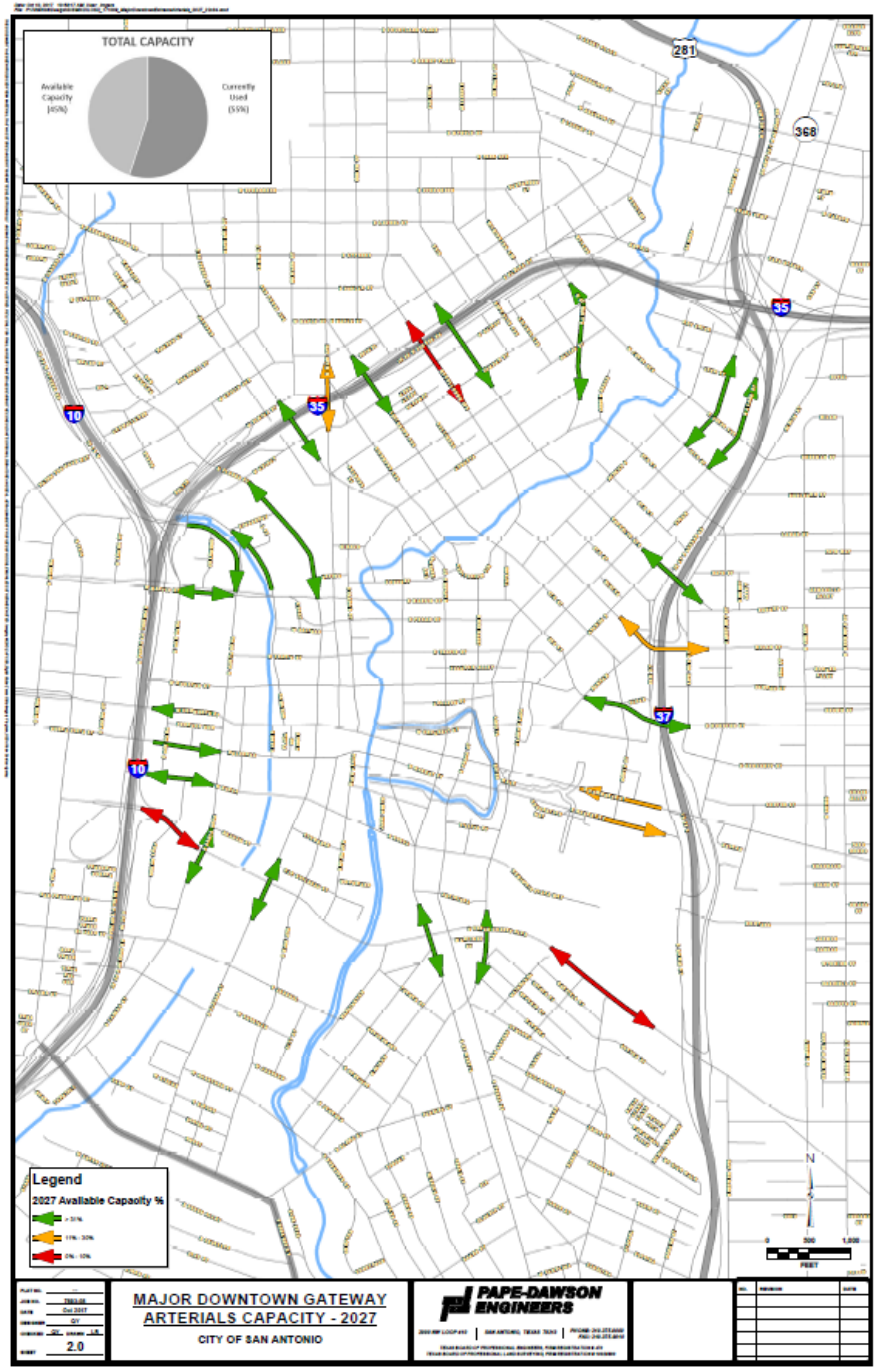
2027
DOWNTOWN ACCESS

- 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



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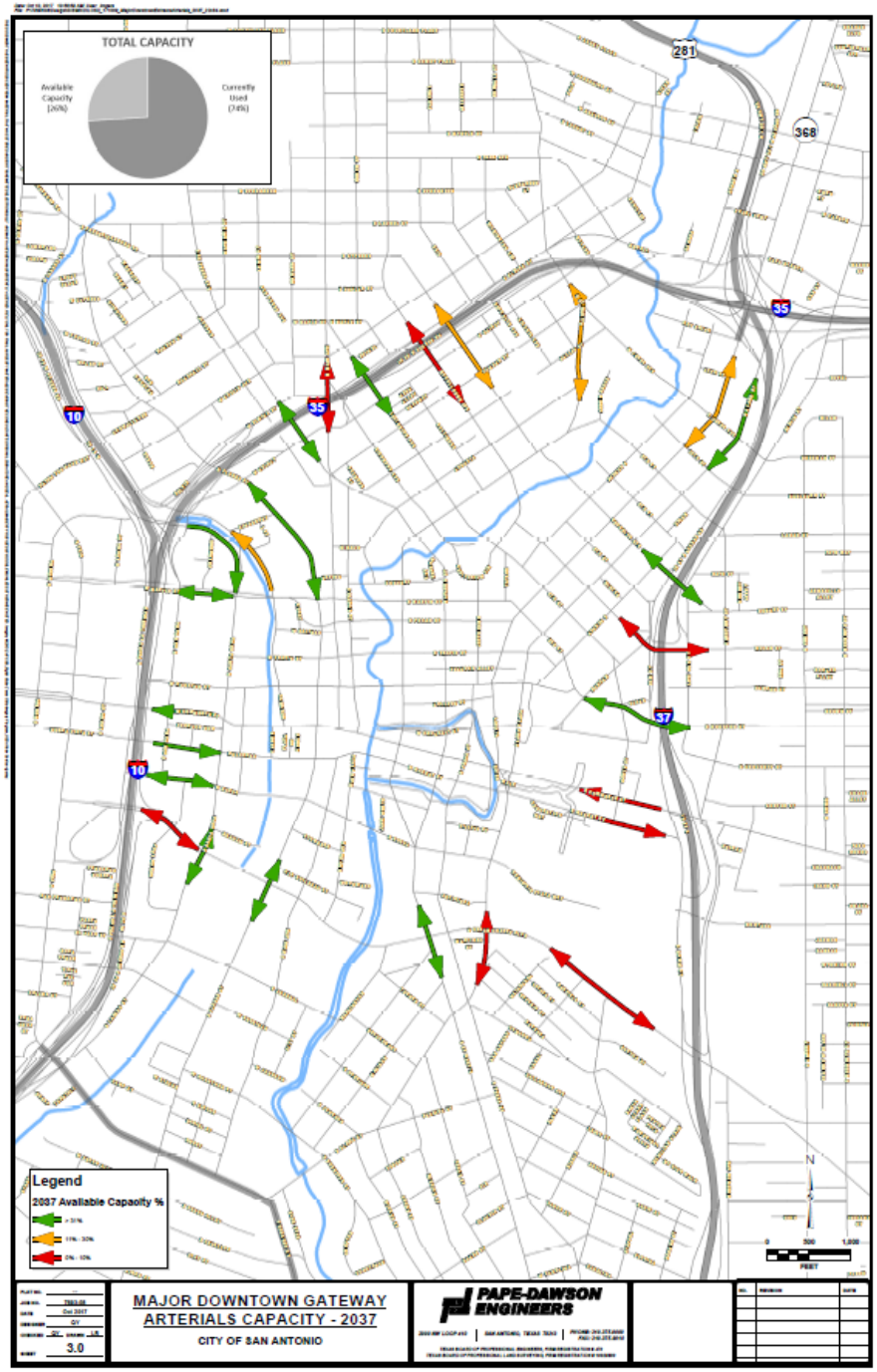
2037
DOWNTOWN ACCESS

- Most Arterials will Approach Capacity
- Will Allow Approximately 7 More Frost Towers in 2037



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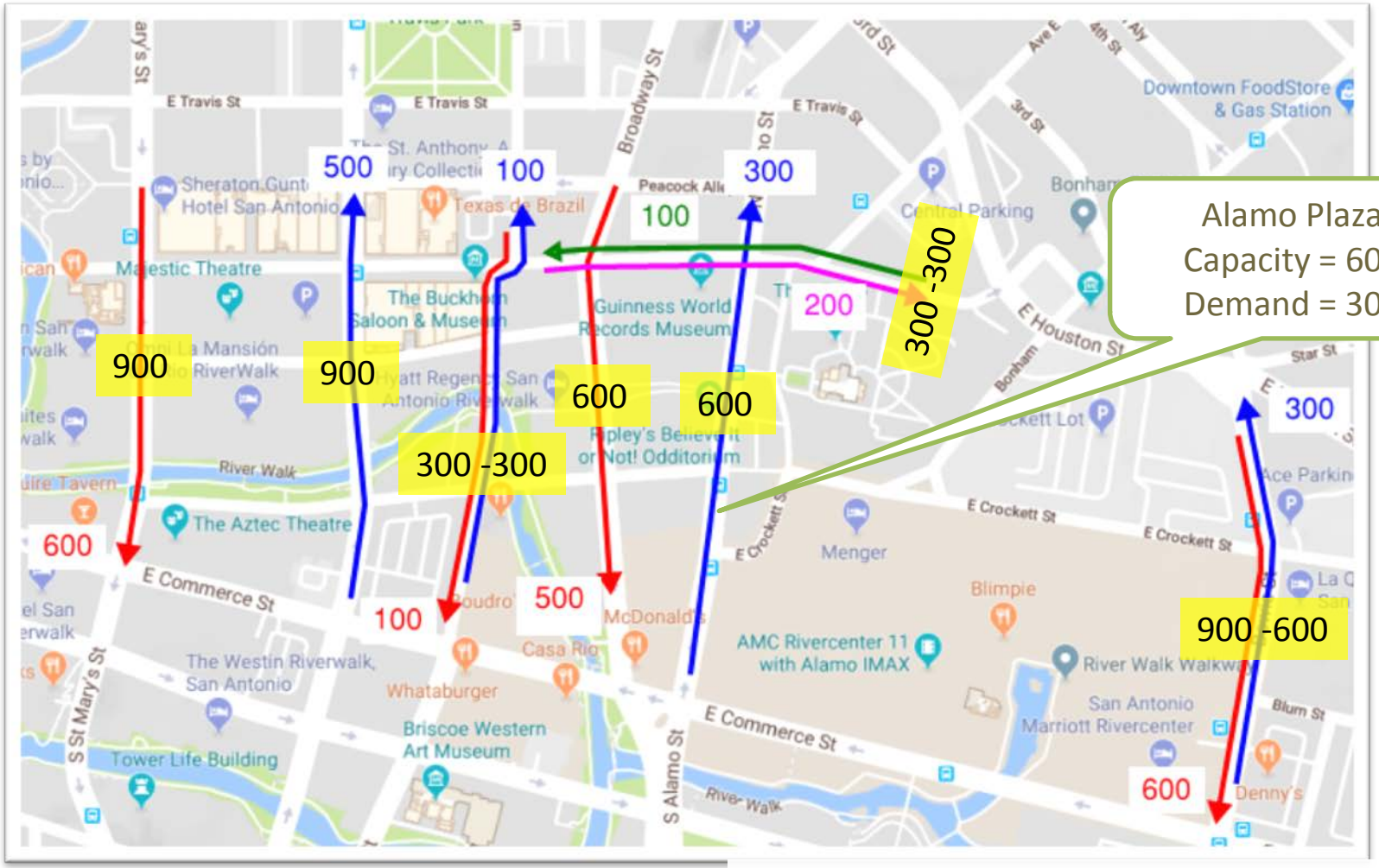
EXISTING VOLUMES AND CAPACITIES

BETWEEN TRAVIS ST. AND COMMERCE ST.



100: Existing Northbound Traffic Volume

100: Existing Southbound Traffic Volume

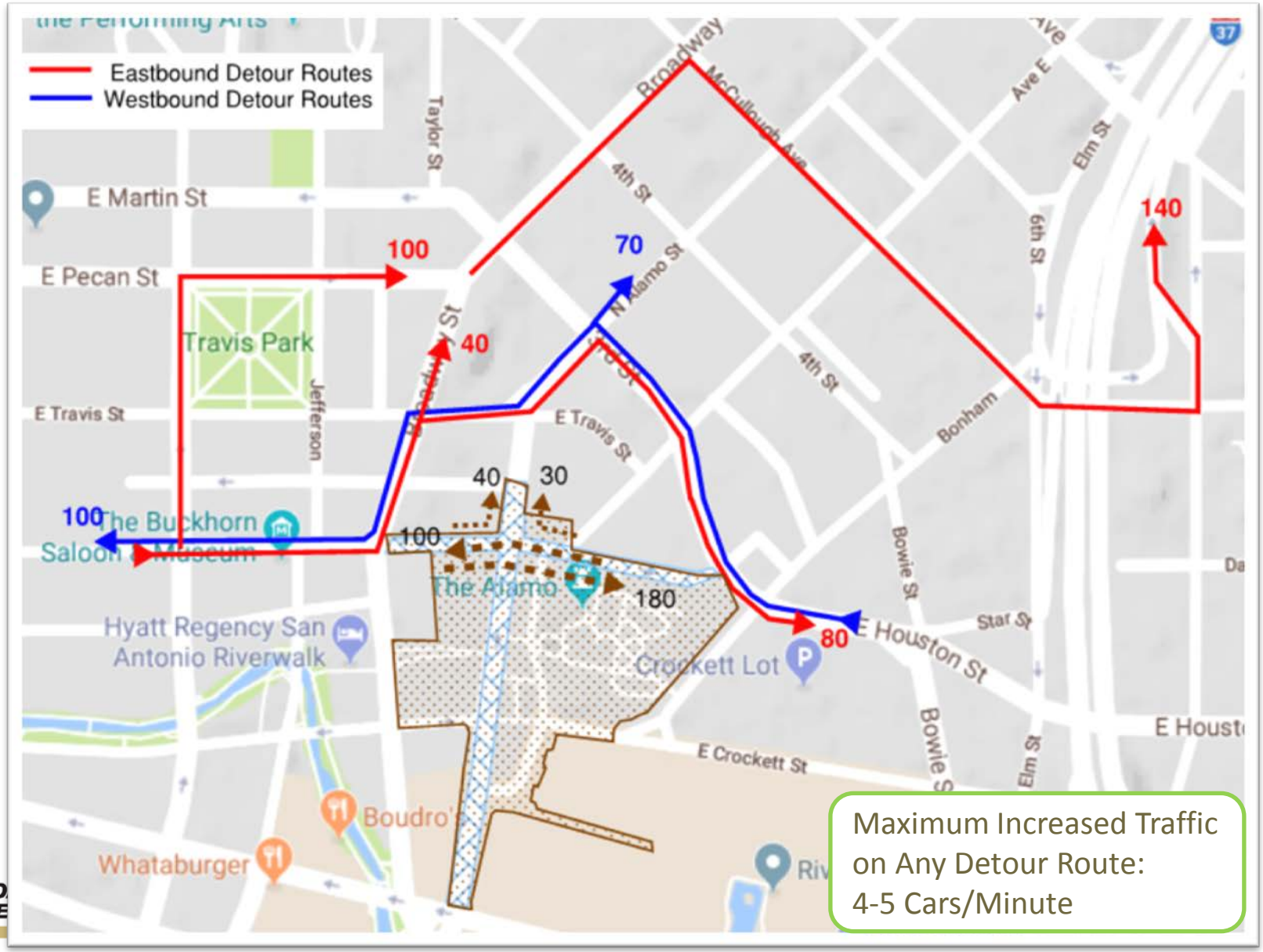
100: Existing Street Capacity

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

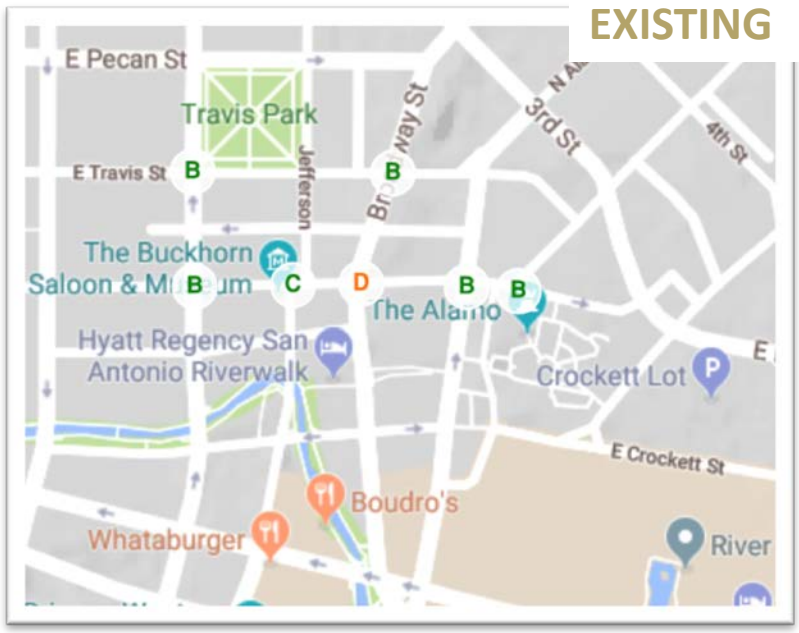
MINIMUM IMPACT

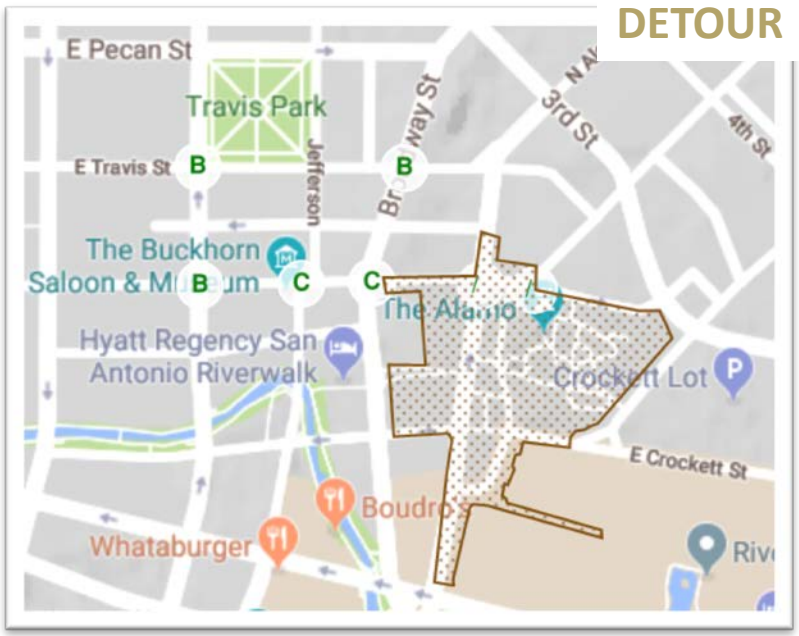


PAPE-D ENGINE

CAPACITY & CRITICAL INTERSECTIONS LEVEL OF SERVICE

MINIMUM IMPACT





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

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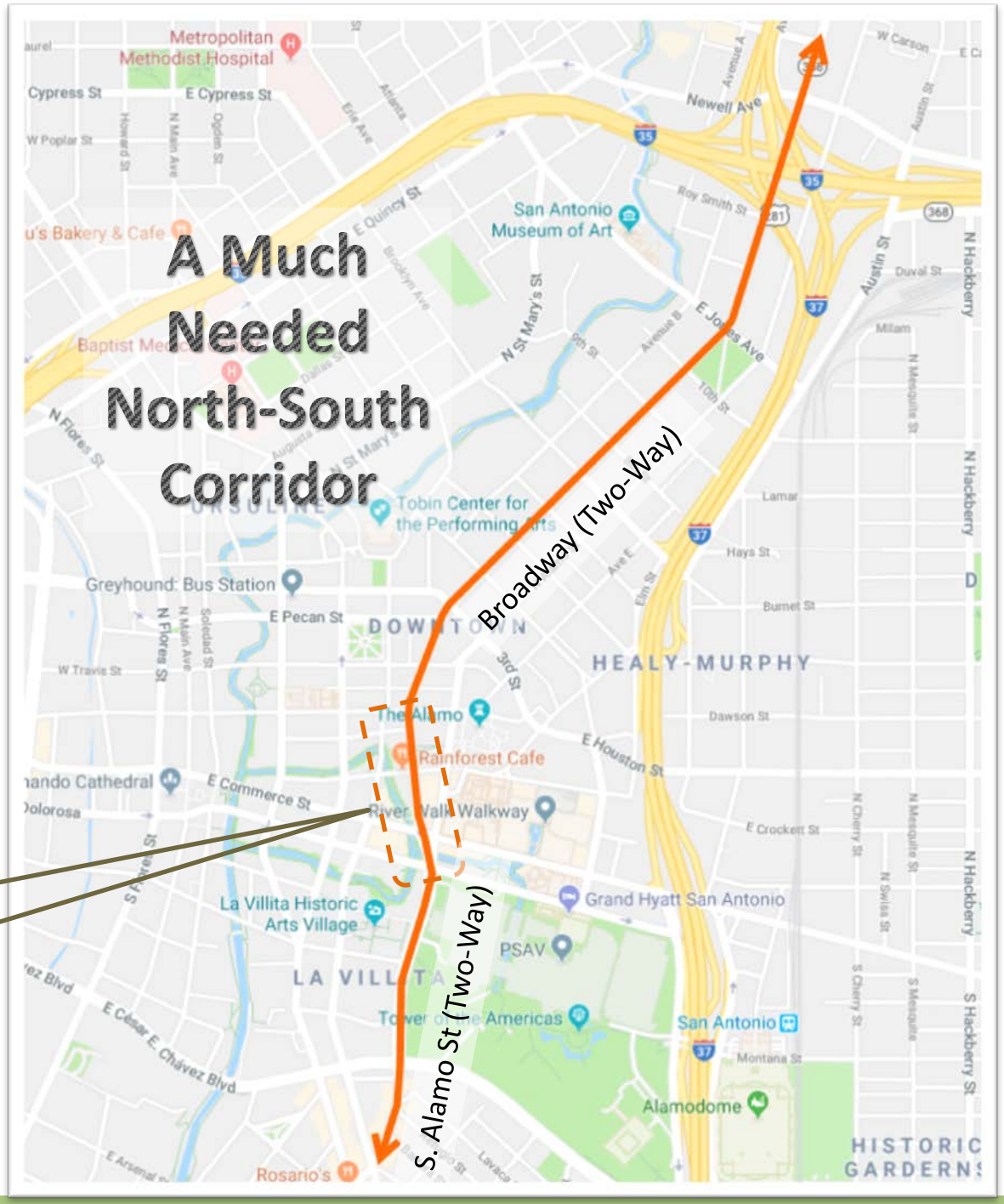
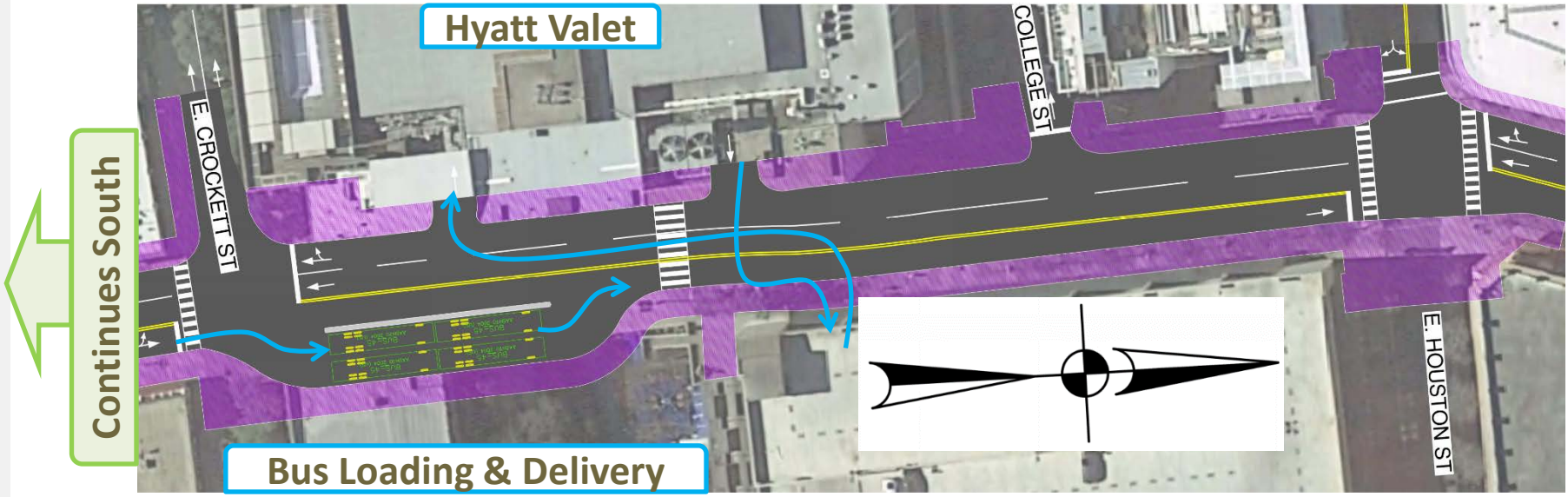
CONNECT S. ALAMO STREET AND BROADWAY



CONVERT LOSOYA TO TWO-WAY

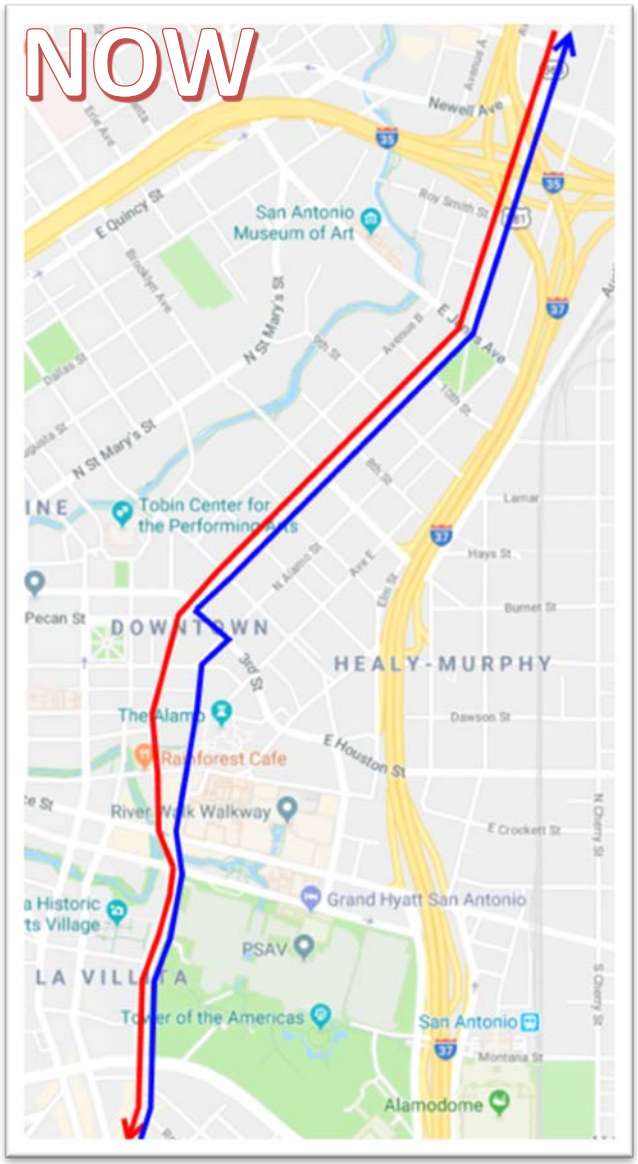
SUFFICIENT SPACE TO MAINTAIN TWO LANES SOUTHBOUND & ADD ONE LANE NORTHBOUND

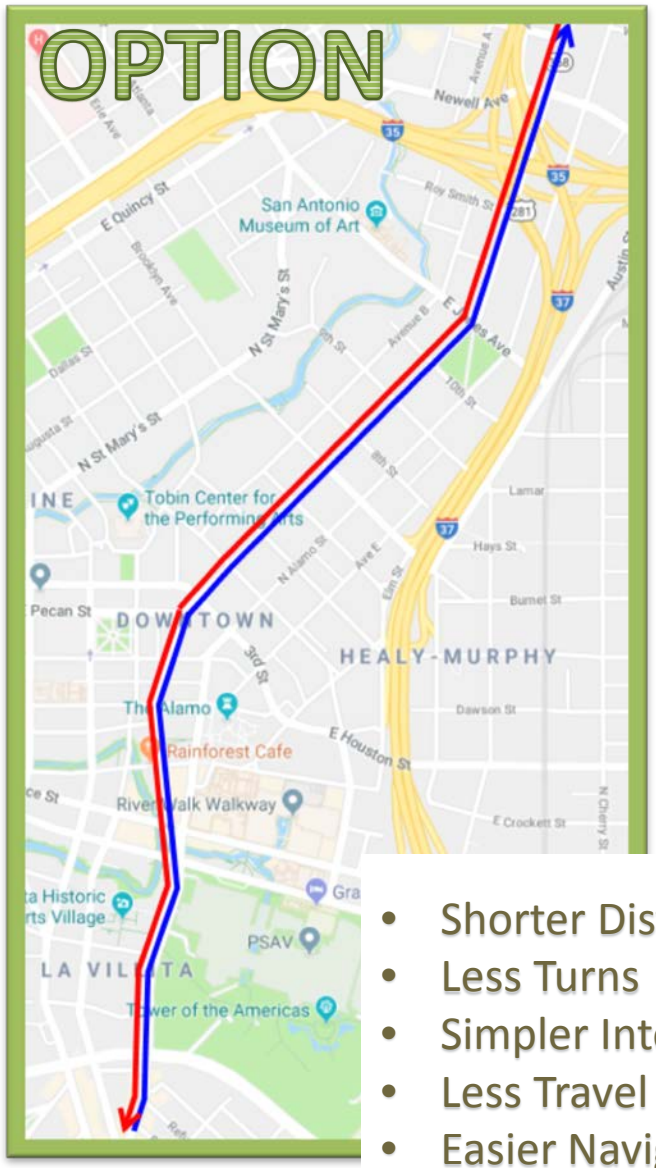
36’ PAVEMENT & 12’ SIDEWALK EACH SIDE



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

WHAT WILL CHANGE





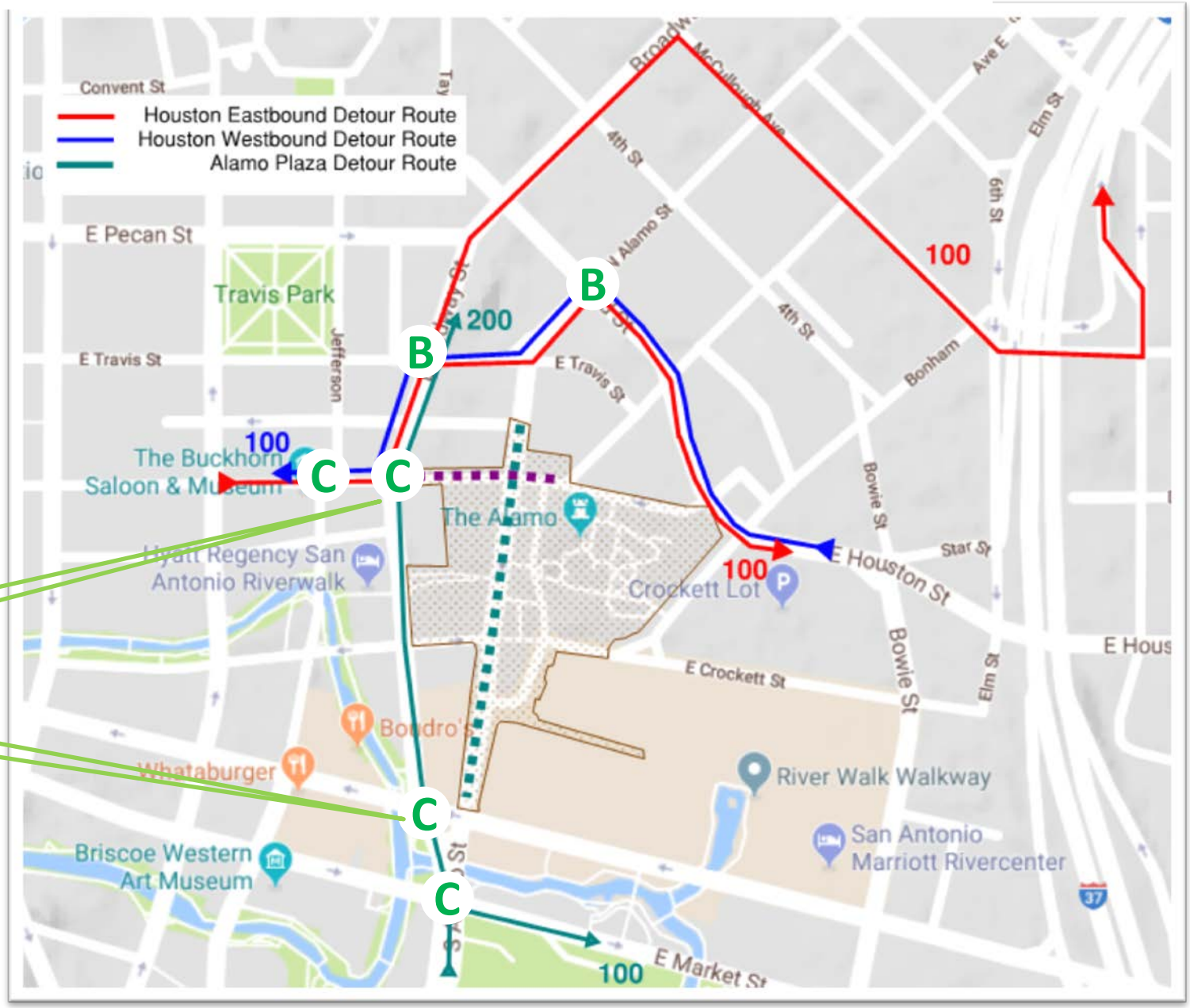
Northbound

Southbound

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

DETOUR – LOSOYA TWO-WAY STREET

BIGGER PICTURE

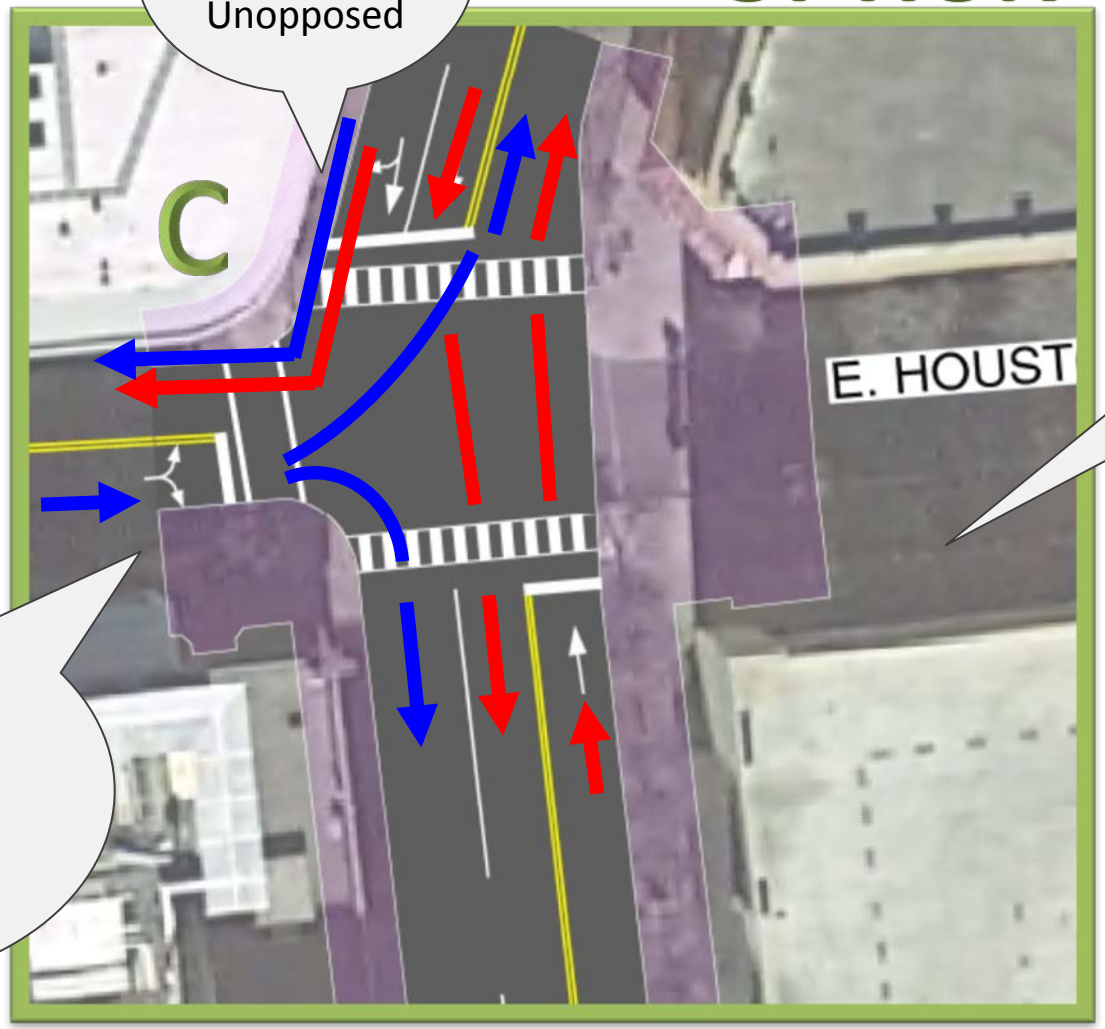


1. HOUSTON – LOSOYA – BROADWAY INTERSECTION

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

BIGGER PICTURE

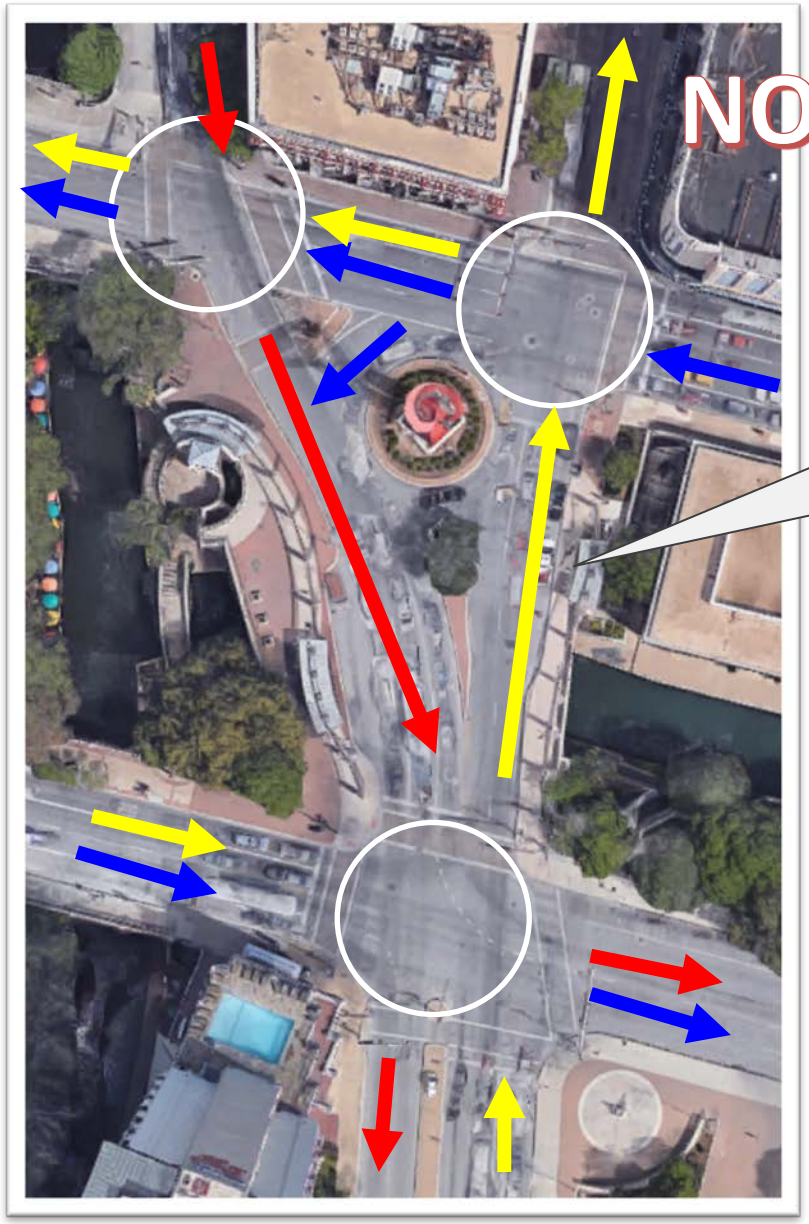
1. HOUSTON – LOSOYA – BROADWAY INTERSECTION



BIGGER PICTURE

2. THE "TORCH" INTERSECTION SIMPLIFIED

COMMERCE – ALAMO – LOSOYA - MARKET



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

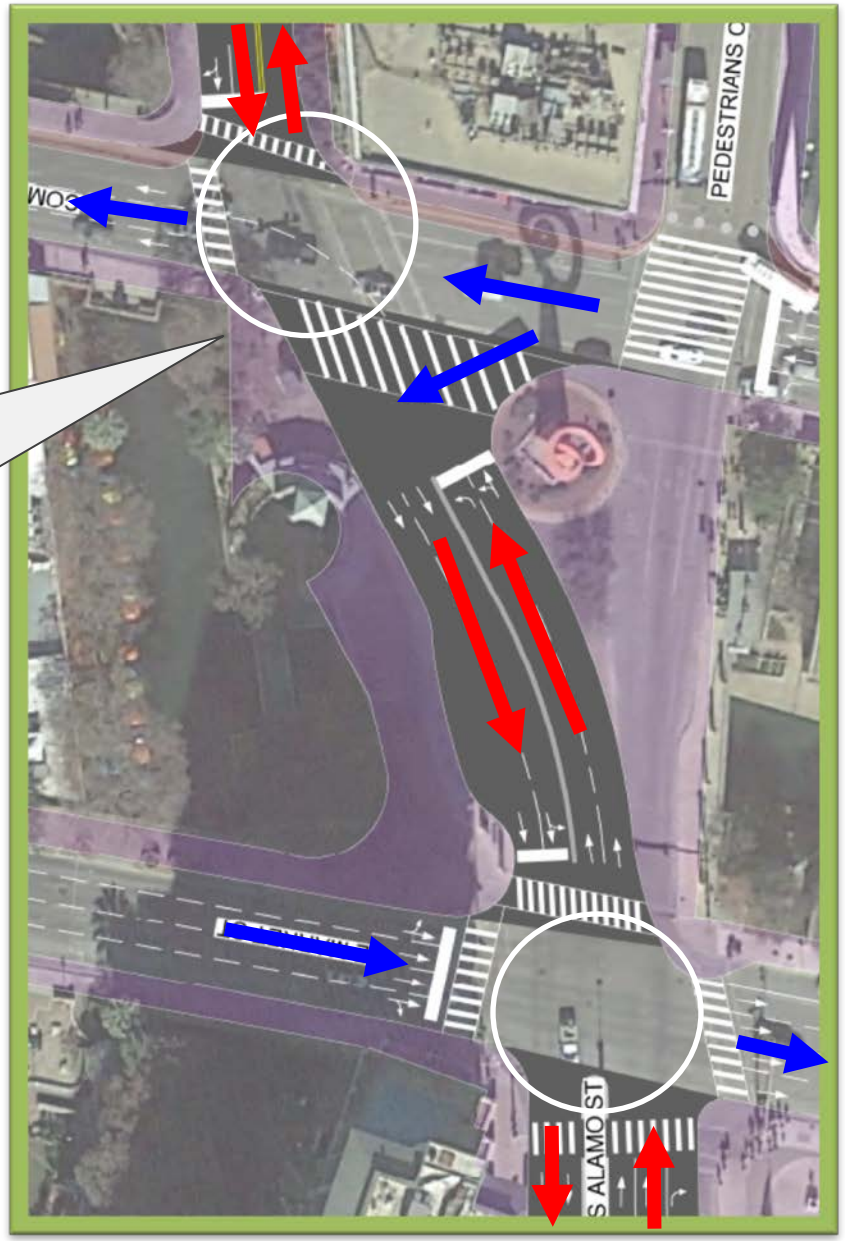
2. THE "TORCH" INTERSECTION SIMPLIFIED

COMMERCE – ALAMO – LOSOYA - MARKET

OPTION

Maintain Similar Level of Service

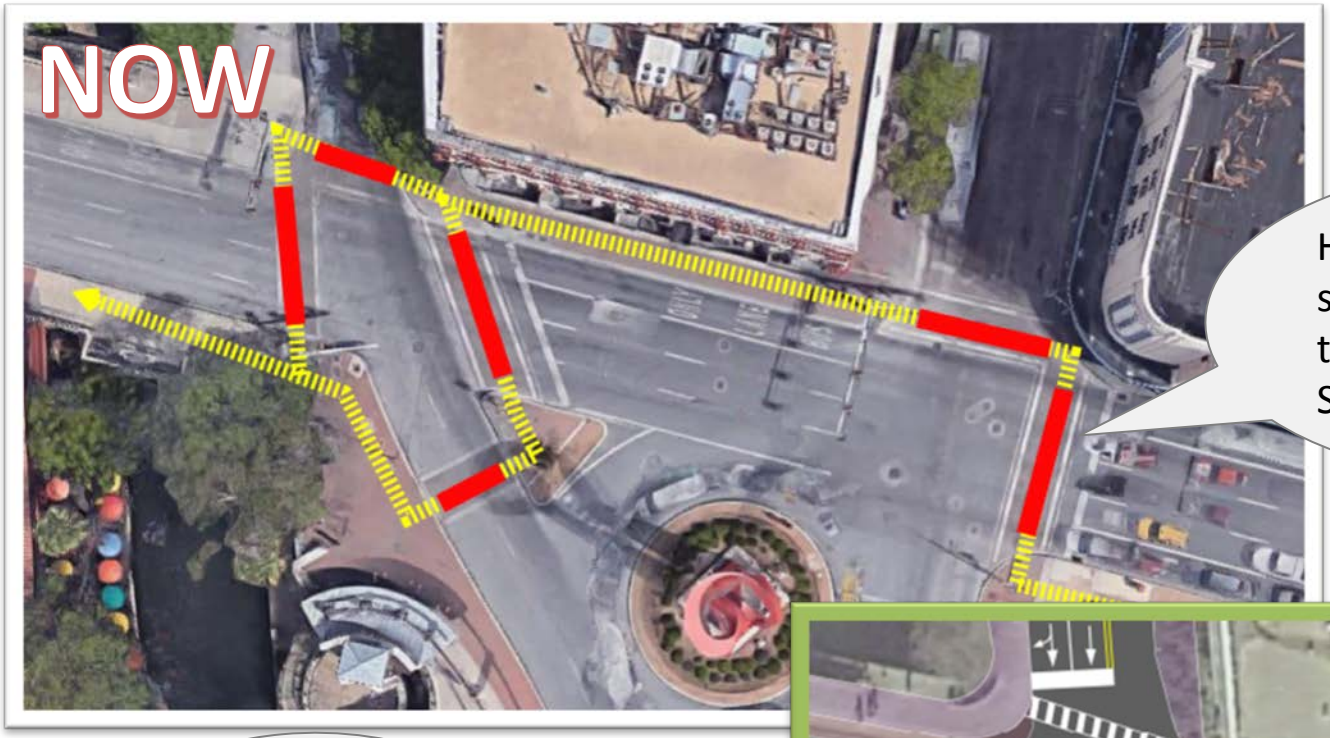
- Consolidates to two intersections.
- Maintains all movements.
- Simpler and more efficient.
- More intuitive for unfamiliar drivers.



BIGGER PICTURE

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.

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City of San Antonio

Maps and Aerials are from Google Map 2018