# Apache Junction Comprehensive Transportation Study

Task Assignment MPD 26-10

## Technical Advisory Committee Meeting # 3

**February 17th, 2010**

JACOBS

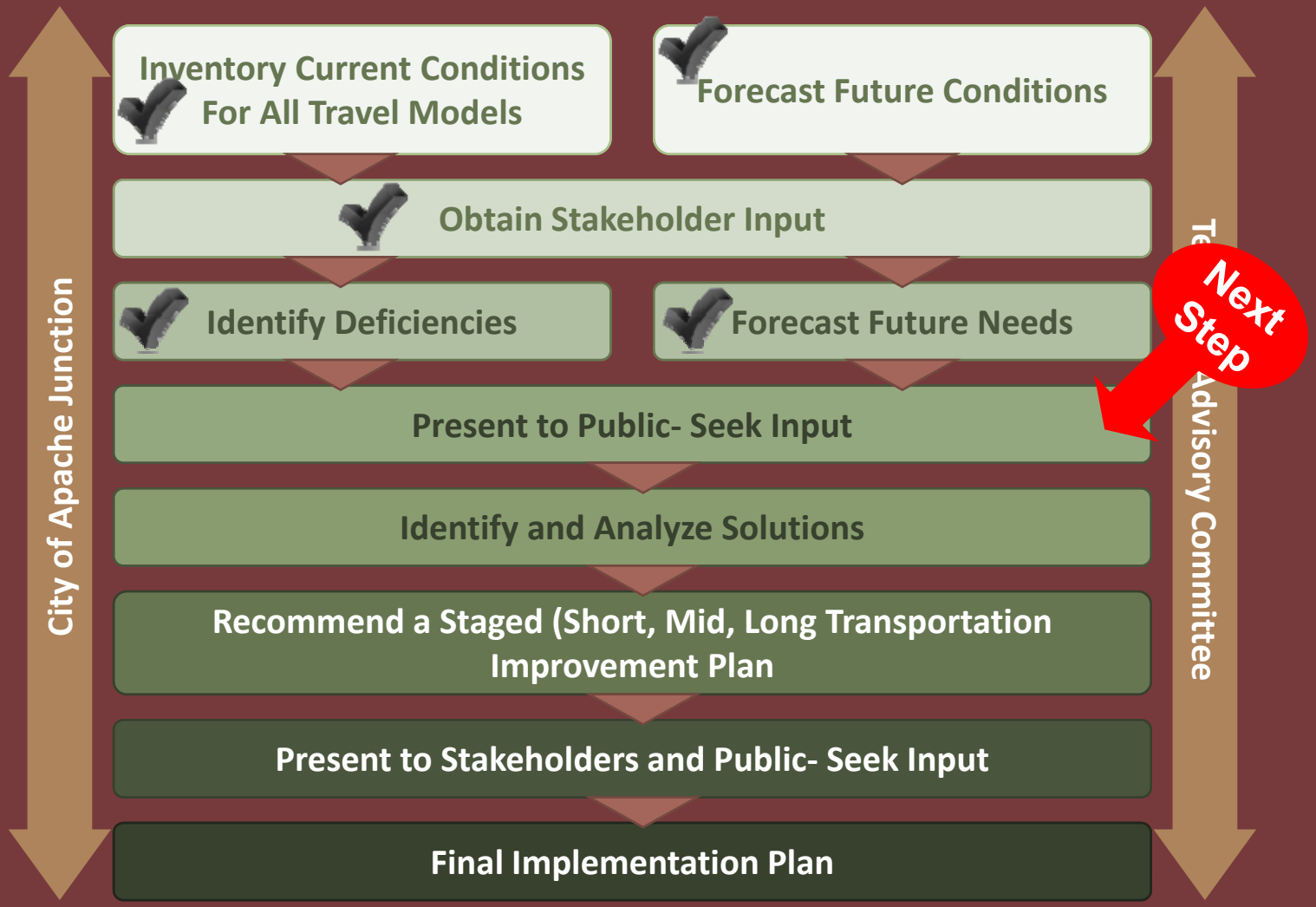
ADOT

CITY OF APACHE JUNCTION ARIZONA

# Meeting Agenda

- ❑ Introductions
- ❑ Study Status Update
- ❑ Existing Conditions Summary
- ❑ Discussion of Future Socioeconomic Data
  - ➢ <u>Population Levels</u>
  - ➢ <u>Process and Assumptions</u>
- ❑ Future Traffic Conditions
- ❑ Transit Feasibility Study Update
- ❑ Draft Public Meeting Exhibits
- ❑ Next steps

# Study Status Update



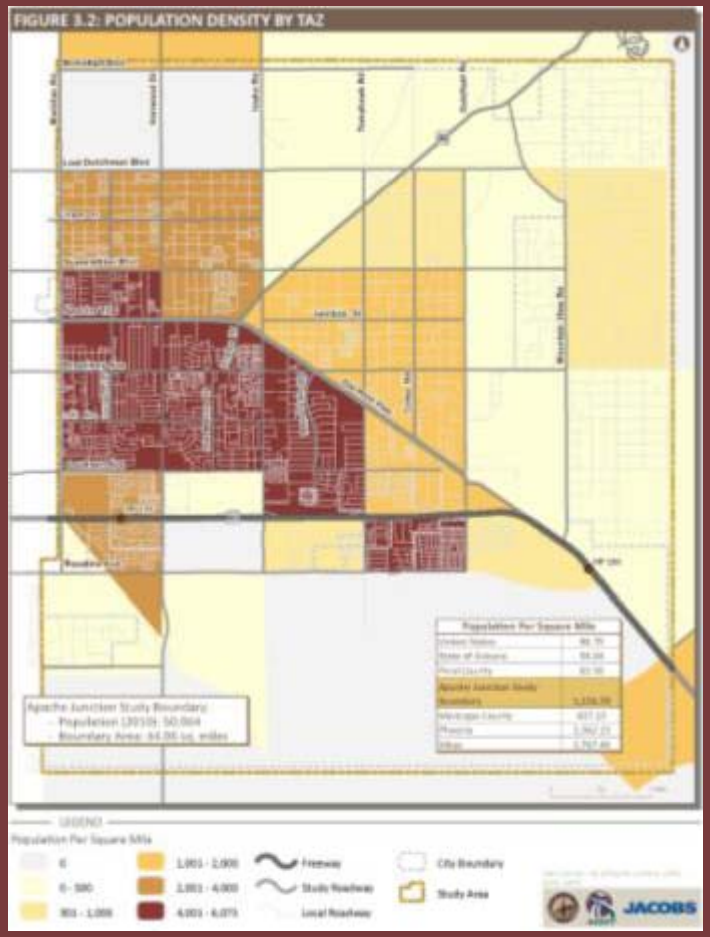
# Study Area, Project Influence Area, Study Roadways

# Current Socioeconomic Conditions

| Geographic Area | Population | | Population Growth Rate | Housing Units | | Housing Units Growth Rate |
|---|---|---|---|---|---|---|
| | 2000 | 2010 | | 2000 | 2010 | |
| Study Area | 38,095 | 50,964 | 3.38% | 26,321 | 33,384 | 2.68% |
| Pinal County | 179,727 | 340,962 | 8.97% | 81,154 | 148,026 | 8.24% |
| State of Arizona | 5,130,632 | 6,595,778 | 2.86% | 2,189,189 | 2,753,059 | 2.58% |

- Land Area: 44 square miles
- Population (Year 2010): 50,964
- Total Housing Units (Year 2010): 33,384
- Occupied Housing Units (Year 2010): 21,541
- Total Employment (Year 2010): 9,600
- Median Age: 42*
- Median Household Income: $39,186*

** Source: US Census Bureau 2006-2008 American Community Survey*



# Existing Transportation Issues Summary

# Future Socioeconomic Data – Population Levels

- Transportation improvement recommendations will be based on Population Levels (60K, 75K, and 130K) and ~~NOT horizon years~~ such as 2015, 2020, 2030
- Use of Population levels as benchmarks is more suitable for areas that have a potential for high growth
- Challenges:
  - Apache Junction is surrounded by other potential high growth areas
  - How do you estimate the population levels of those areas that correspond to each of Apache Junction's population growth level?

# Population Levels - Methodology

## PRIMARY GOALS

- ❑ Be consistent with CAAG's population projections for Pinal County
- ❑ Transform CAAG's population projections by HORIZON YEAR to POPULATION LEVELS for the Apache Junction area

# Population Levels - Methodology

## PROCESS

- **Used CAAG projections by horizon year as a starting point**
  **(CAAG has established population and employment control totals for Pinal County for 2015, 2020, 2025, 2030, and 2040).**

- **Worked with State Lands in estimating build out levels for Portalis**

**Portalis Build out:**

**93,000 residents**

**24,000 employees**

| Year | Portalis Build Out Assumptions | | | | |
|---|---|---|---|---|---|
| | Phase 1 | Phase 2 | Phase 3 | Phase 4 | Population |
| Year 2010 | 0% | 0% | 0% | 0% | 0% |
| Year 2015 | 20% | 0% | 0% | 0% | 5% |
| Year 2020 | 50% | 0% | 0% | 0% | 13% |
| Year 2025 | 80% | 20% | 0% | 0% | 25% |
| Year 2030 | 100% | 60% | 0% | 0% | 45% |
| Year 2035 | 100% | 80% | 60% | 0% | 65% |
| Year 2040 | 100% | 100% | 100% | 10% | 85% |
| Build Out | 100% | 100% | 100% | 100% | 100% |

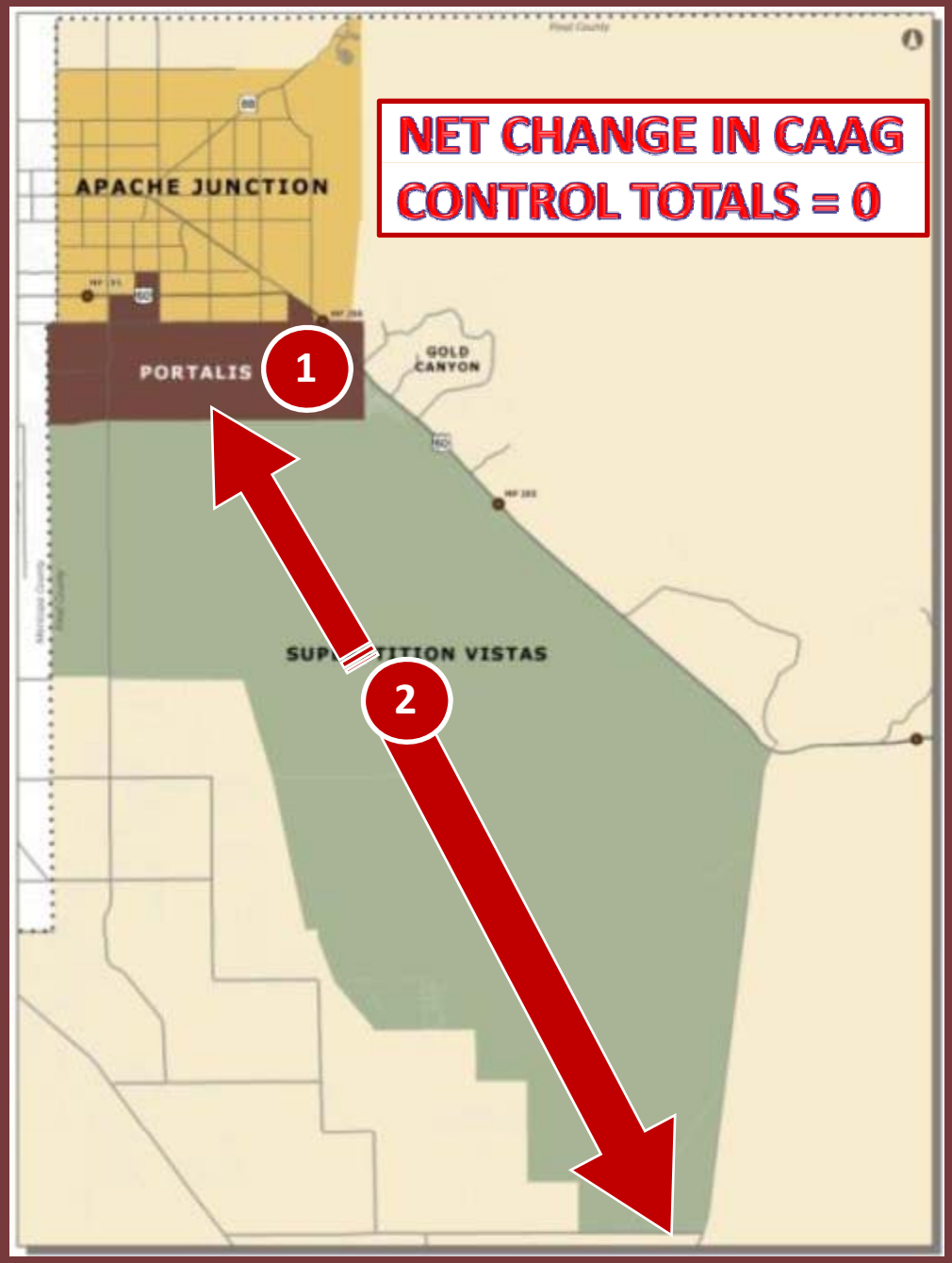
# Population Levels - Methodology

**Observations:**

1. Adding Portalis growth levels would increase the CAAG control totals

2. CAAG has growth allotted in Superstition Vistas area

**To stay within CAAG control totals, data from the Superstition Vistas area was reallocated to the Portalis area**



# Population Levels- Methodology

**After Adjustments to CAAG Data:**

- **Study area population and employment projections were established for 2015, 2020, and 2030**
- **Replaced the horizon years 2015, 2020, and 2030 with the terms Population Level 1, Population Level 2, Population Level 3**

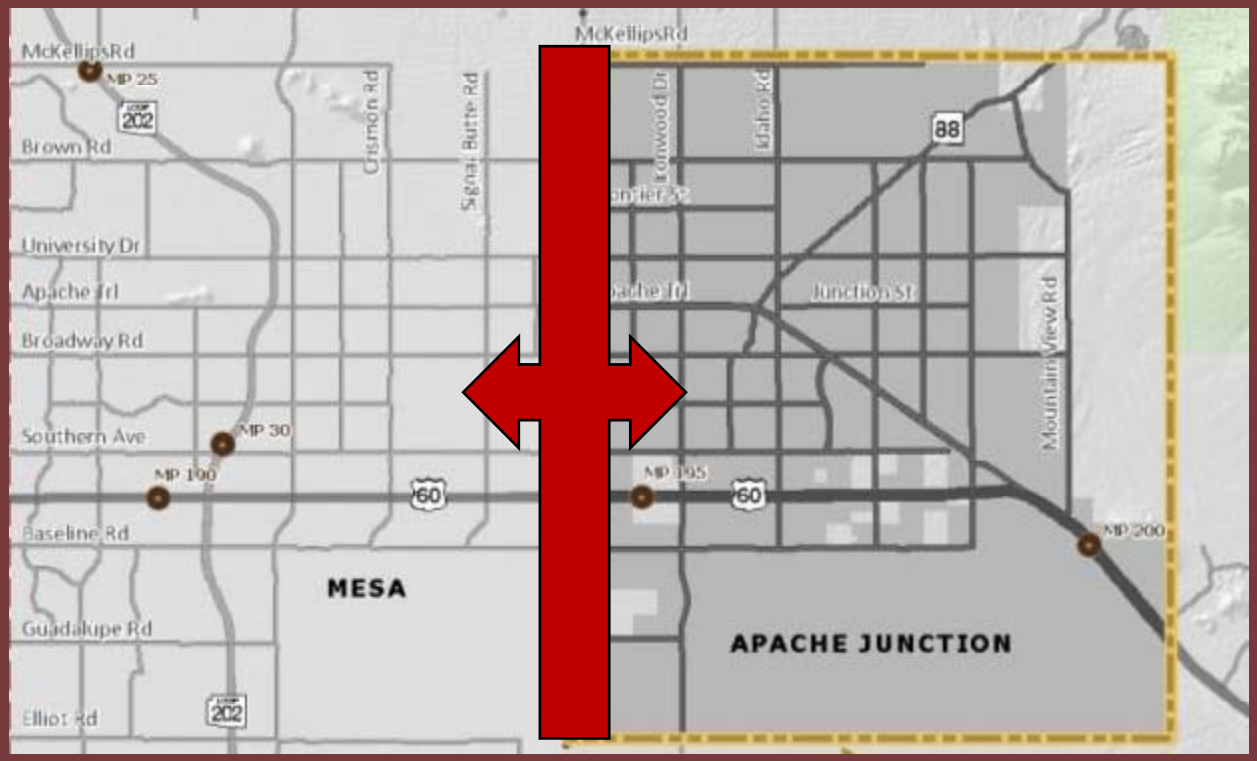
| | 2010 Population | Population Level 1 | Population Level 2 | Population Level 3 |
|---|---|---|---|---|
| **Apache Junction Study Area** | 51,000 | 60,000 | 75,000 | 130,000 |
| **Pinal County** | 346,000 | 441,000 | 607,000 | 1,083,000 |

# Traffic Projections - Methodology

- Used revised population and employment discussed above
- Used CAAG's roadway networks for each population level
- Removed all roadway improvements in the STUDY AREA
  - To estimate traffic projections on study roads if no improvements are made – NOBUILD SCENARIO

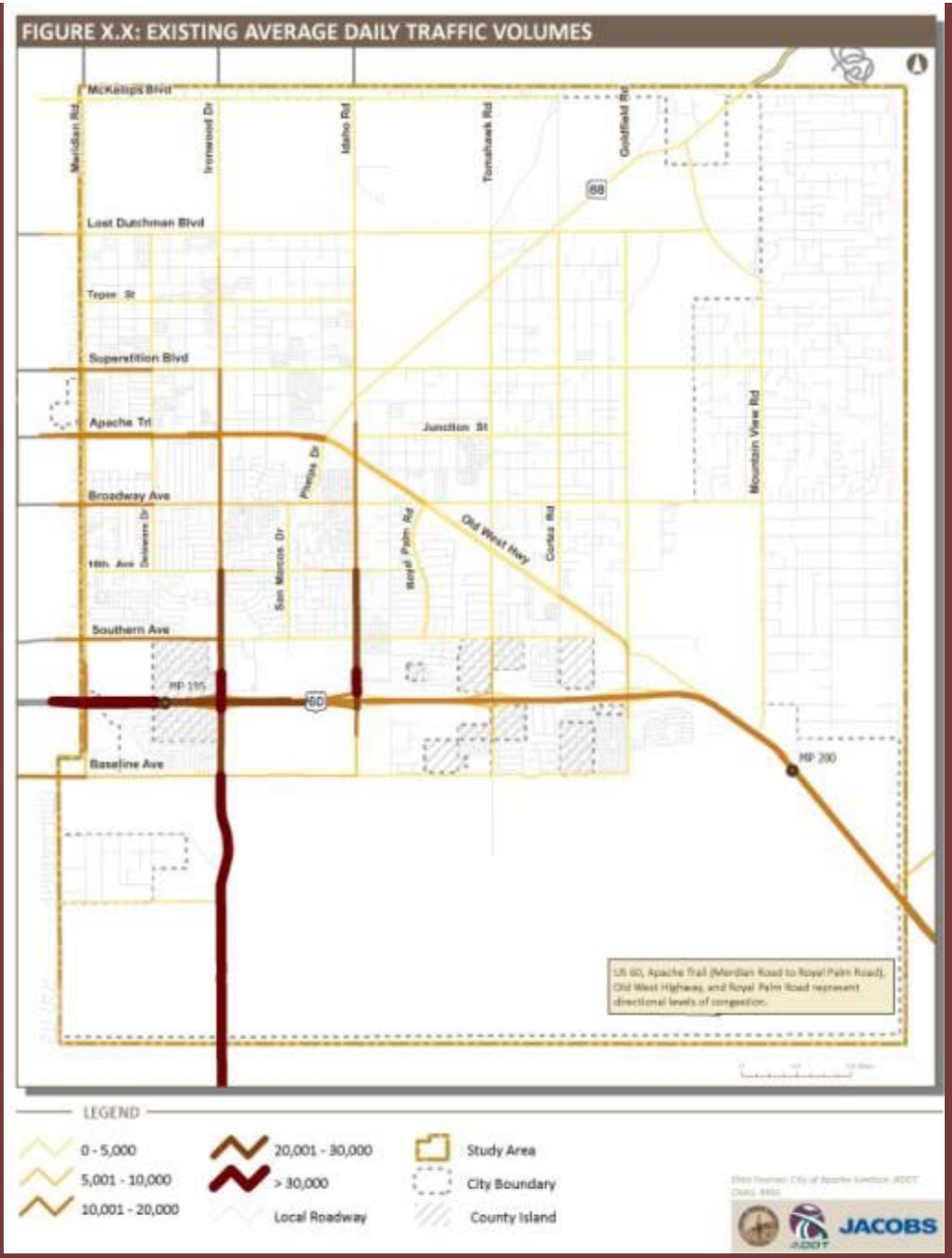
# Traffic Projections - Methodology

- To capture traffic exchange between Maricopa County and Apache Junction, MAG Model's traffic volumes were utilized.

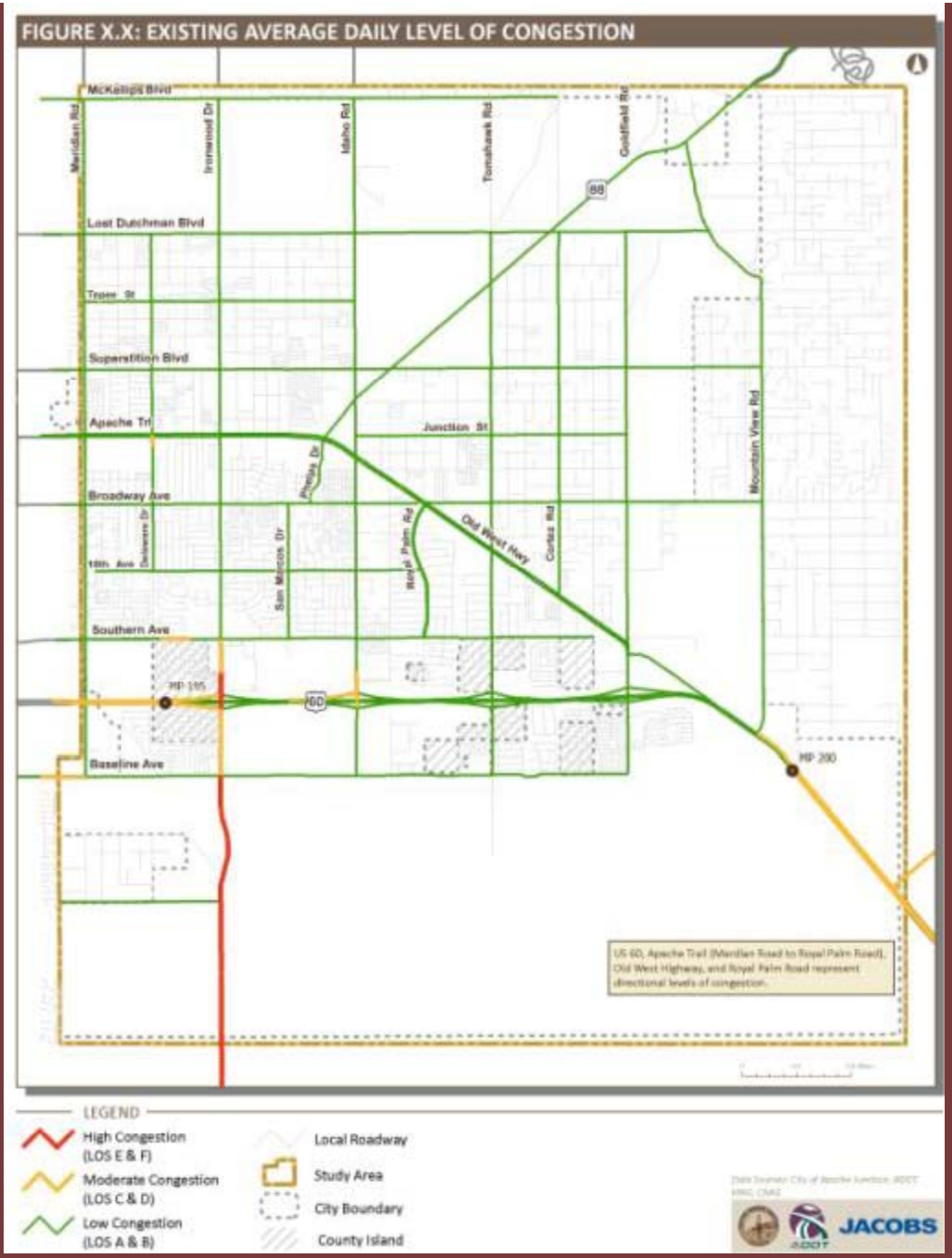



- Updated the Countywide Travel Demand Model to forecast traffic volumes

# Existing Traffic Volumes

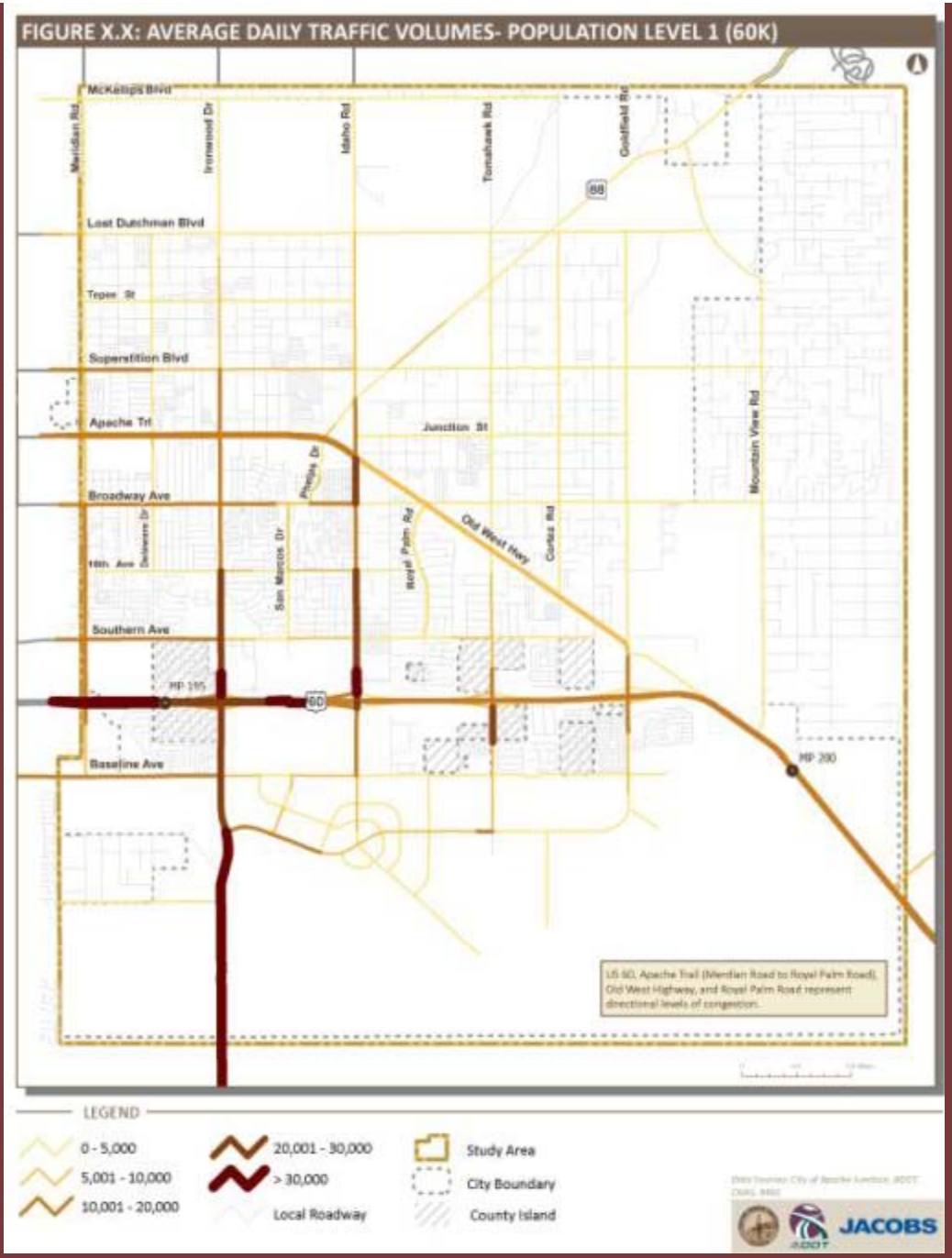


# Existing Congestion Levels



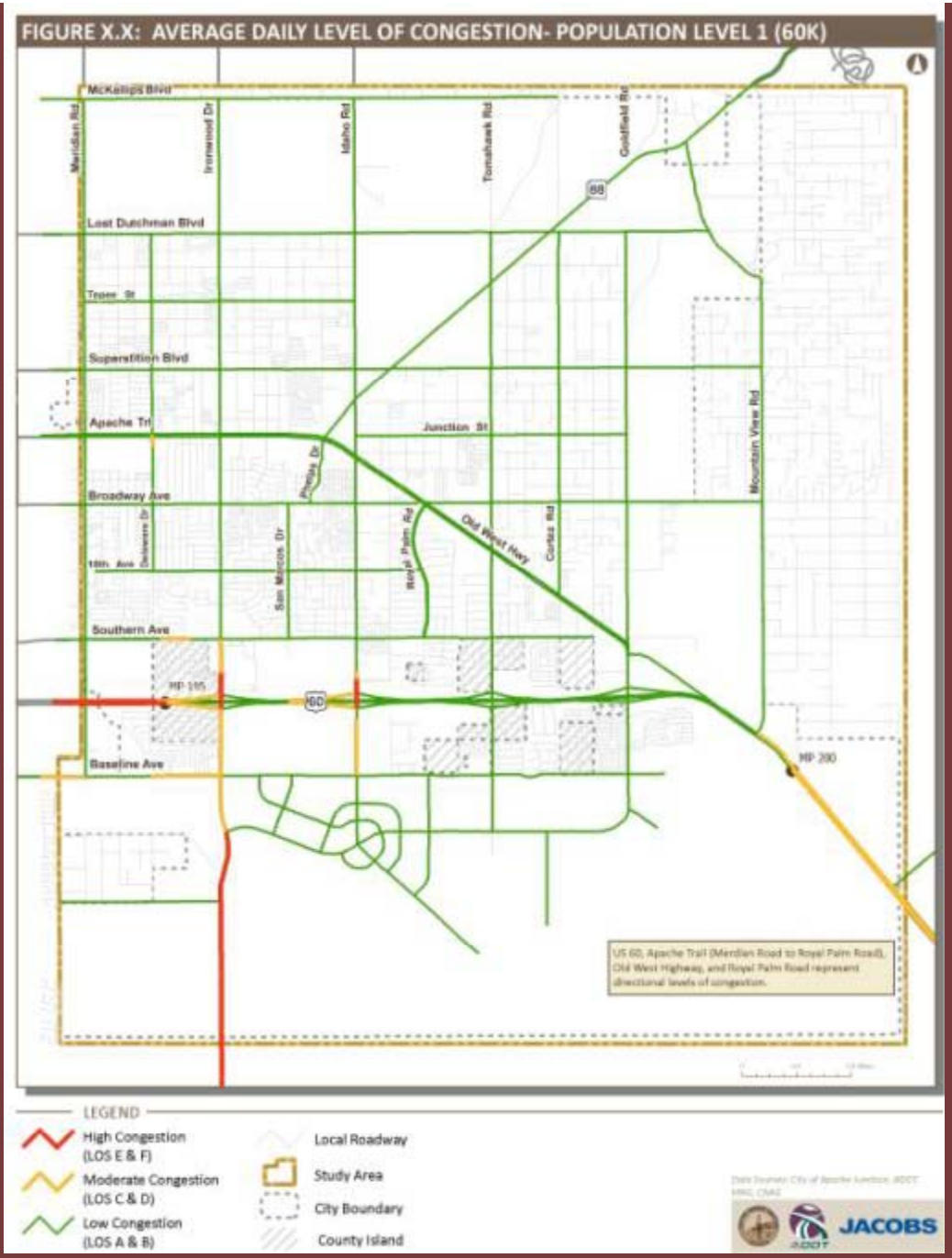
# Population Level 1 (60k)

# Traffic Volumes



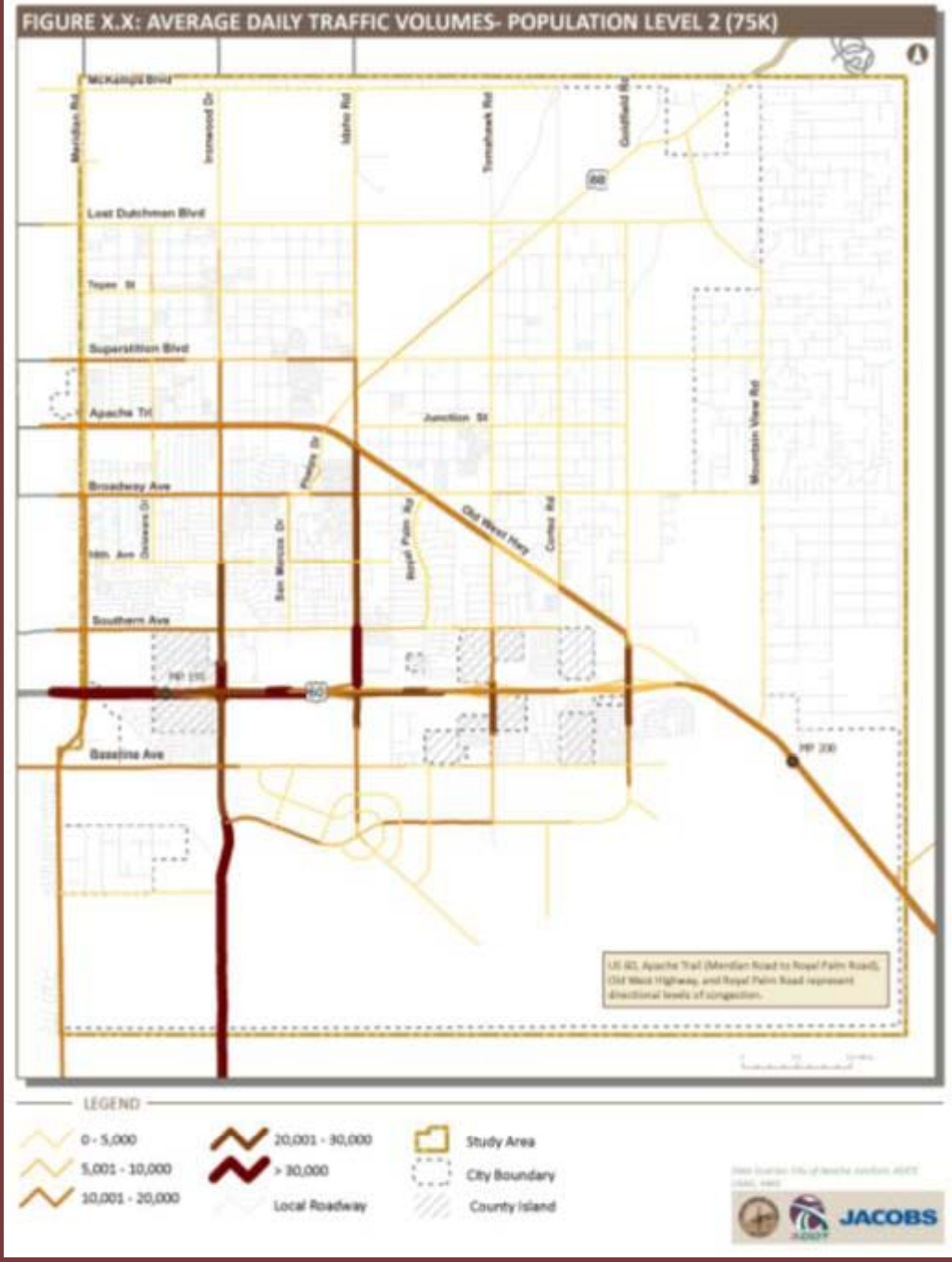
# Population Level 1 (60k)

# Congestion Levels



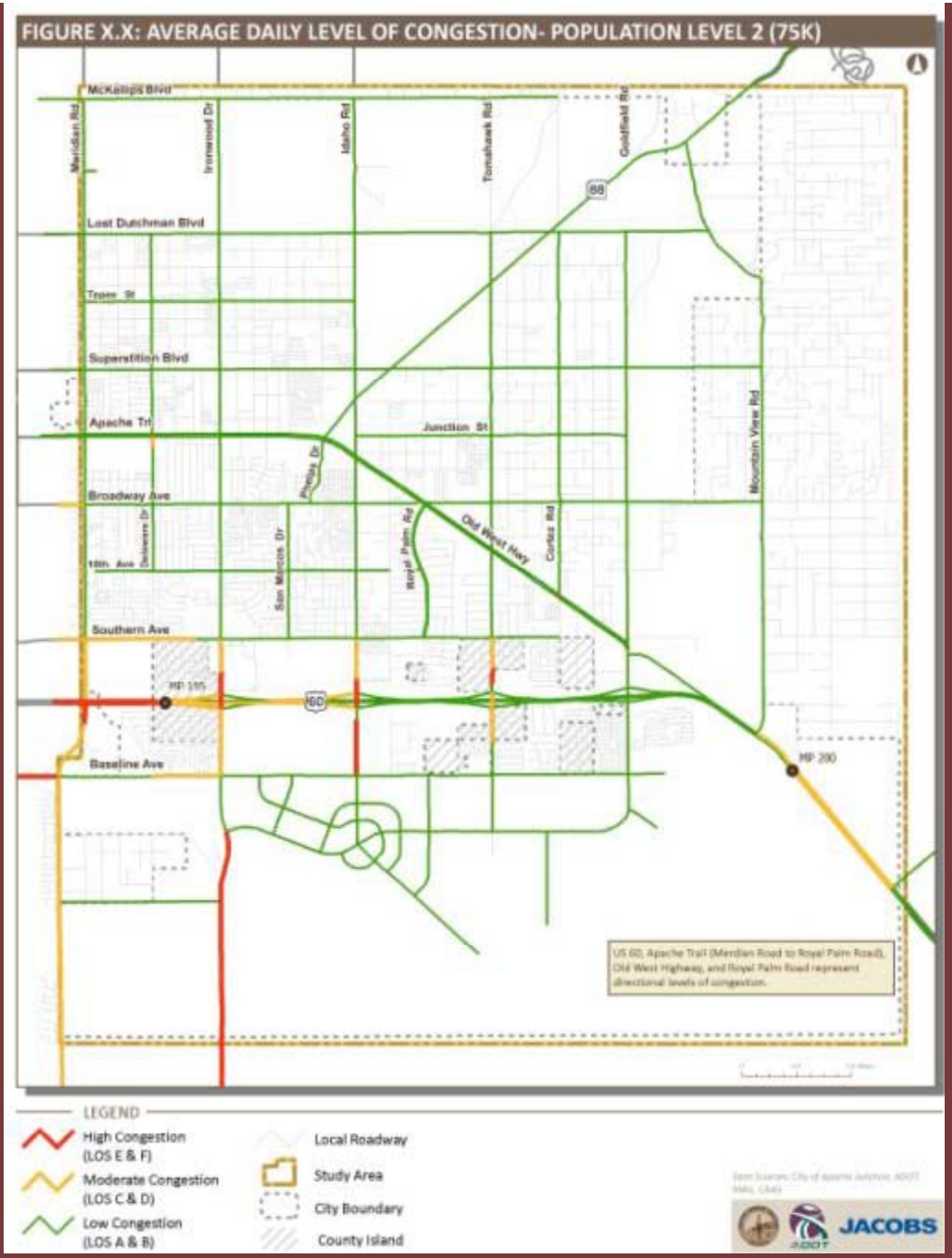
# Population Level 2 (75k)

# Traffic Volumes



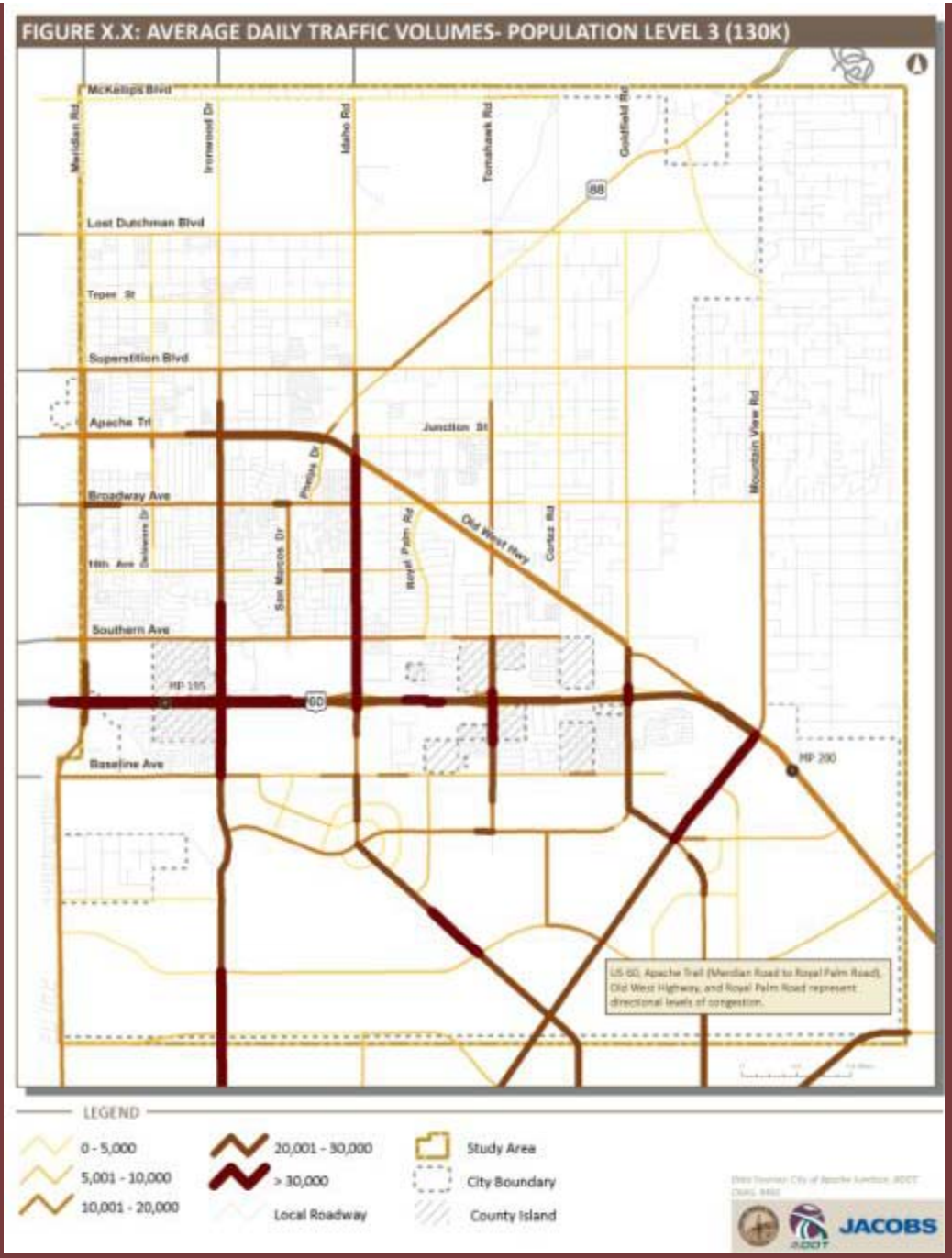
# Population Level 2 (75k)

# Congestion Levels



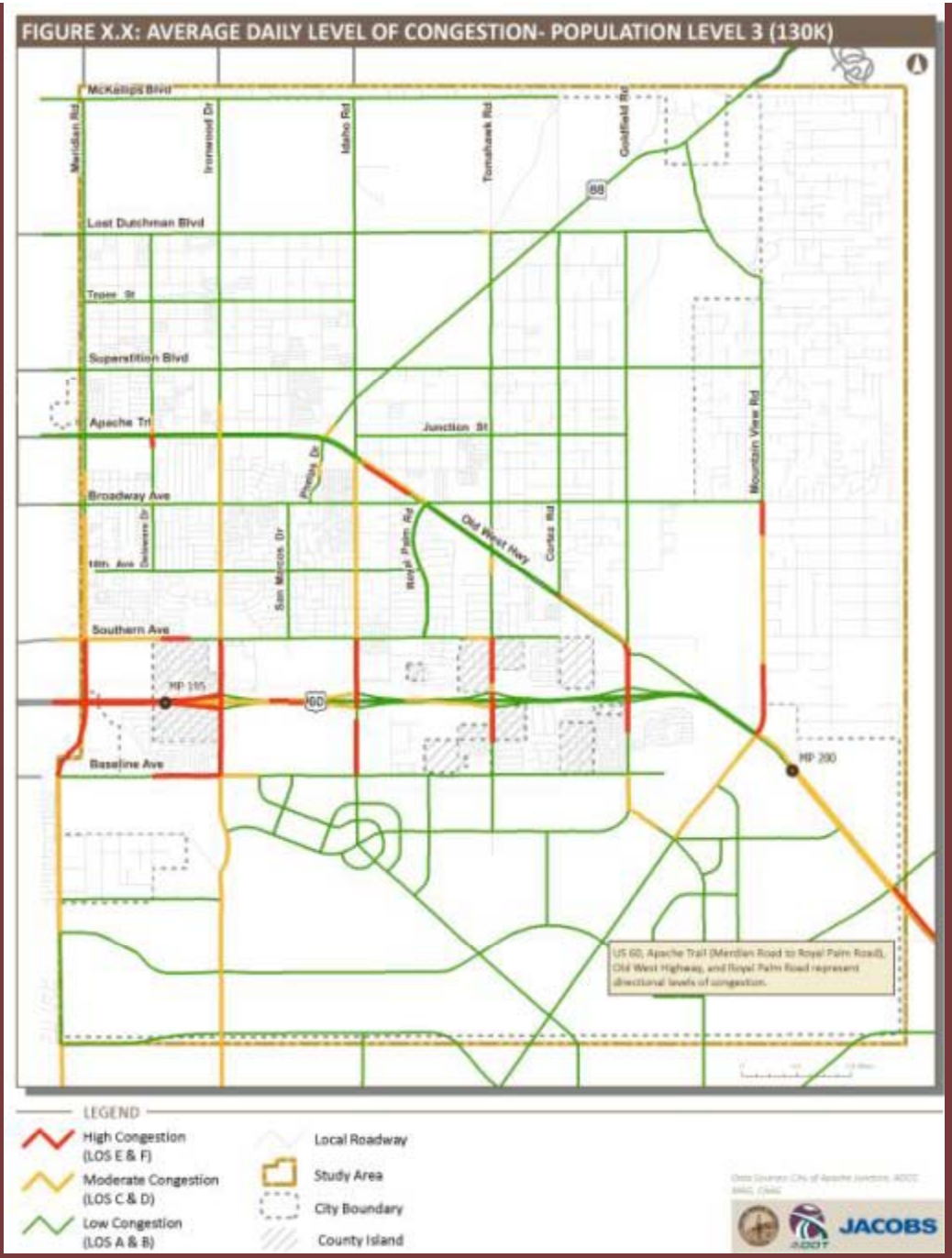
# Population Level 3 (130k)

# Traffic Volumes



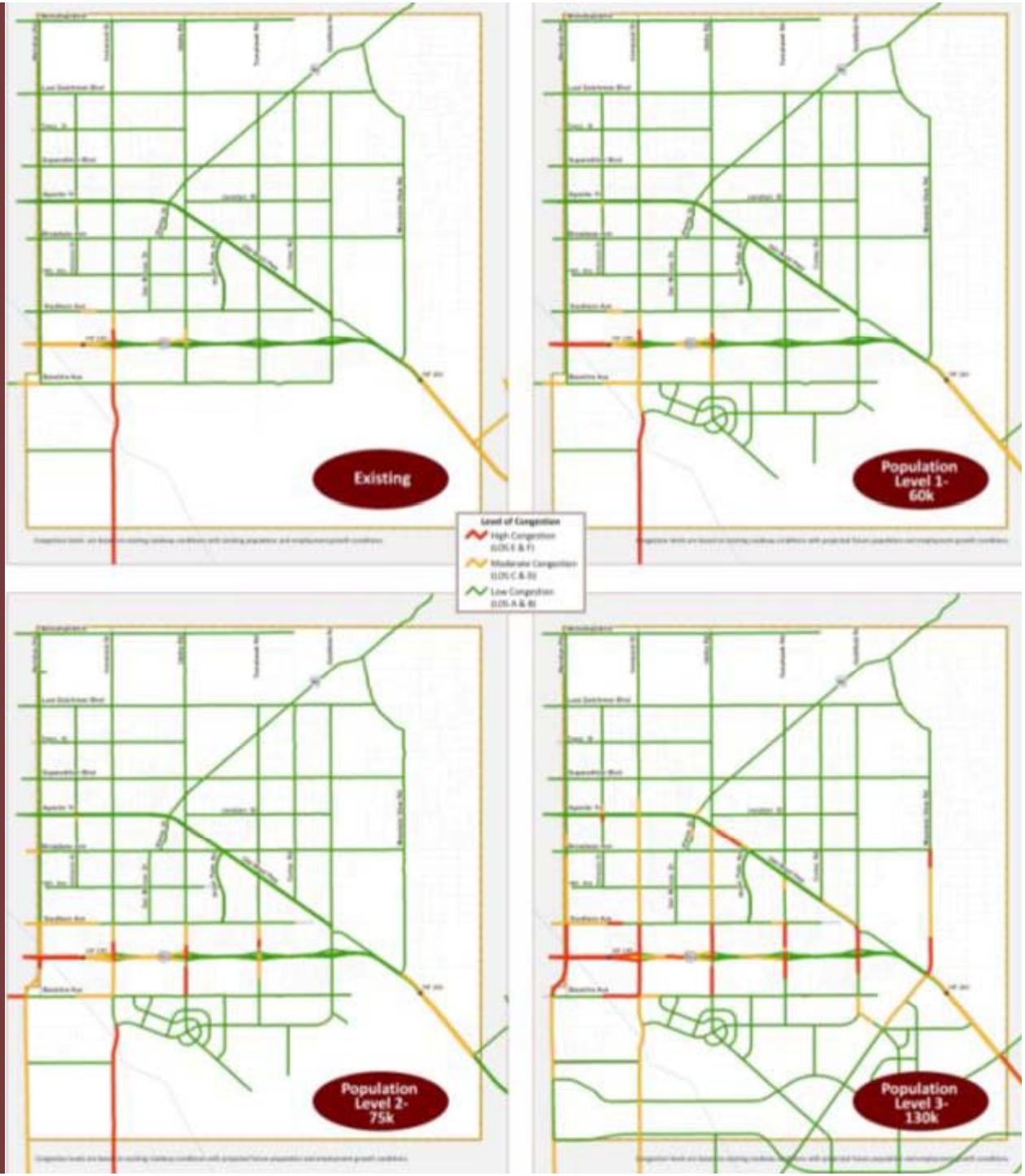
# Population Level 3 (130k)

# Congestion Levels



# Traffic Volumes Comparison

# Congestion Level Comparison



# TRANSIT STUDY UPDATE

# Study Area Characteristics

- Designed for the private automobile to be primary source of mobility
- Has convenient and largely congestion-free grid style system of roadways
- Total population density of the 44.06 square mile Study Area is now 1,157 persons per square mile
- Many retirees live in Study Area, and more visit during the winter months
  - According to the Apache Junction Chamber of Commerce, the median age is 44

# Existing Public Transportation

- Two private-sector operators, Cricket's Shuttle and Cactus Shuttle, currently provide demand-response public transportation service in the area
- Both offer service to:
  - Phoenix Sky Harbor
  - Phoenix Mesa Gateway Airport
  - Local service to Wal-Mart, Superstition Springs Mall
  - Transportation to medical appointments

# Service from Mobile Home Parks

- Many manufactured home communities operate their own shuttles for full-time and seasonal community residents
  - Shopping and medical trips
  - Tours to concerts, sporting events, and other special events
  - A variety of vans and cutaway buses are used for these services

# Human Services Transportation

- Three assisted living facilities within the Study Area: Aurora House; Beehive House; Horizon Bay
  - provide or arrange for medical and other transportation services for their residents
- Triple R Behavioral Health provides transportation to facility for clients
- Apache Junction Senior Center provides multi-service transportation to persons who no longer drive
  - Transportation to and from the Center, as well as for medical appointments and grocery shopping
  - "Meals on wheels" for persons who are unable to travel to the Center

# City's Vision for Future Transit

- High-capacity transit along the Apache Trail Corridor
- Local circulator transit services in downtown commercial and high-density residential areas
- Tourist "trolley" services serving downtown and outlying tourist attractions such as Lost Dutchman State Park and the Goldfield Ghost Town

# Current Transit Demand

- Estimated using two widely accepted transit demand modeling procedures: Burkhardt and Millar Model and SG & Associates Arkansas Model
- Estimate of between 370,000 and 378,000 unlinked passenger trips per year
  - average of over 1,000 unlinked trips per day
- Estimate is local travel only
  - regional travel—such as travel to Mesa or Phoenix, would be in addition to the 1,000 local trips

# FUTURE TRANSIT CONDITIONS

# Minimum Consolidated Residential And Employment Densities For Various Types Of Transit Services

| Transit Service Type | Persons/ Sq Mile* |
|---|---|
| Bus–minimum service | 4,500 |
| Bus–intermediate service | 7,780 |
| Bus–frequent service | 16,670 |
| Light rail | 10,000 |
| Rapid transit | 13,300 |

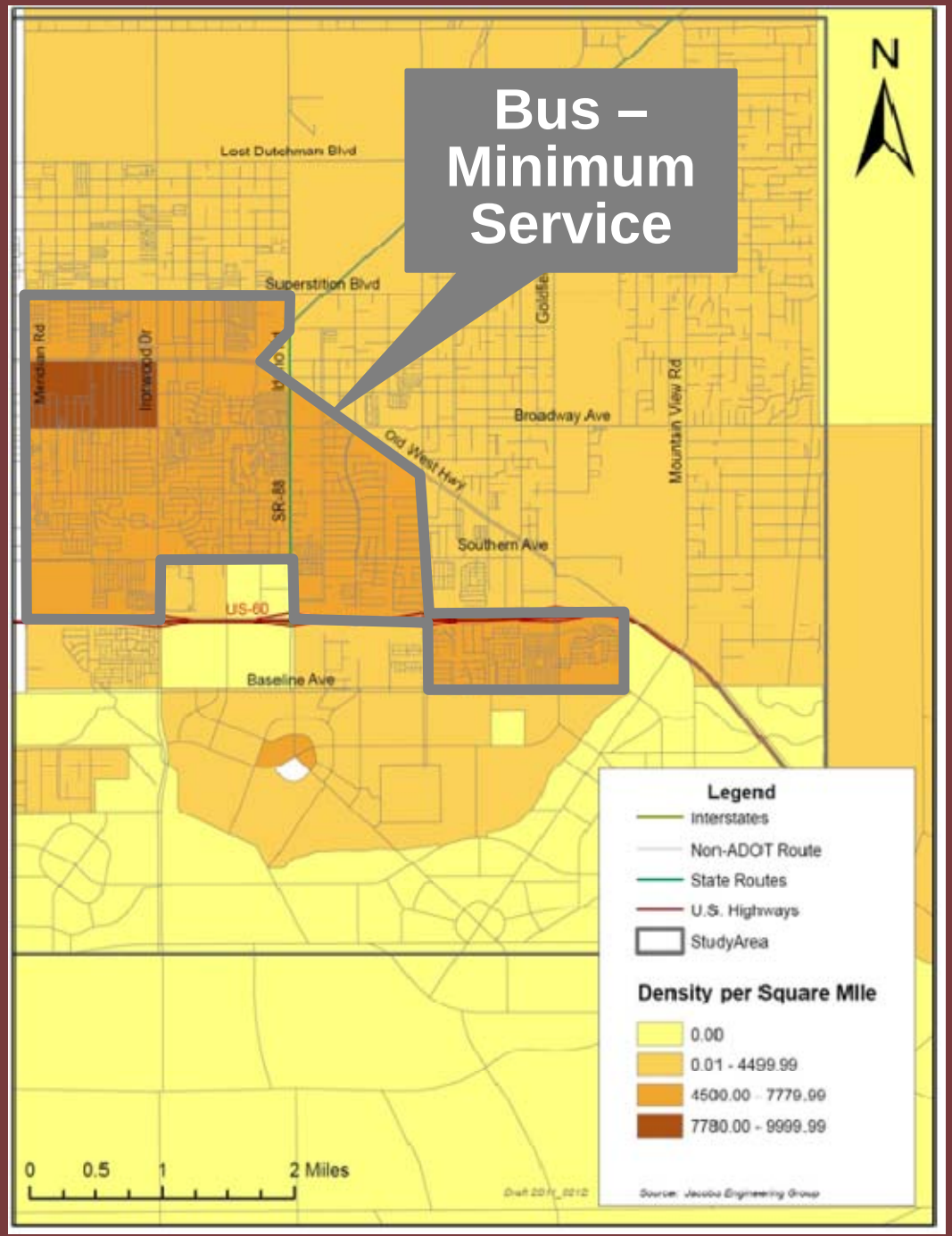
**Bus minimum service = 1/2 mi between routes, 20 buses/day**

**Bus intermediate service = 1/2 mi between routes, 40 buses/day**

**Bus frequent service = 1/2 mi between routes, 120 buses/day**

## Population Level 1 - 60K

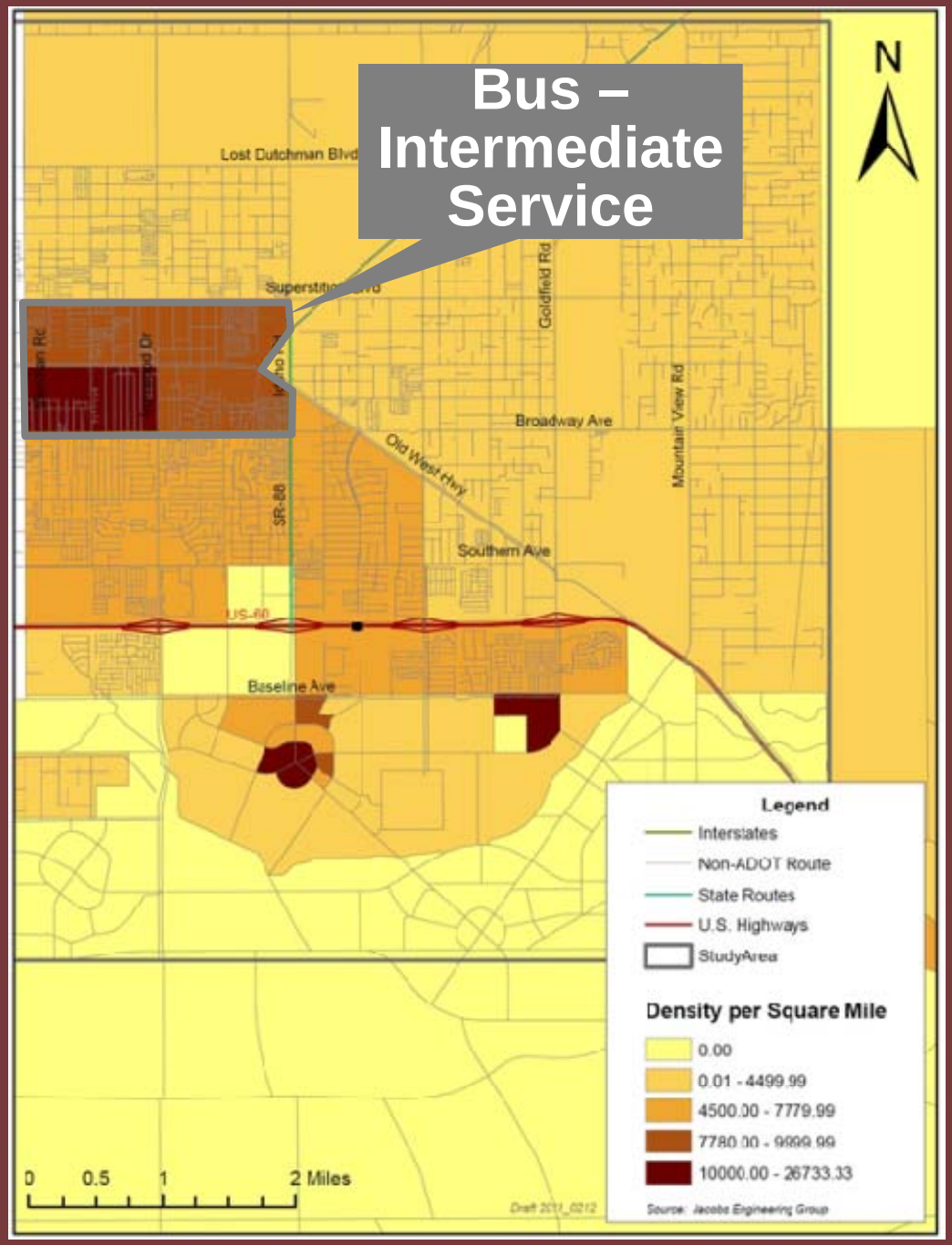
Population and Employment Density By TAZ
Per Square Mile



## Population Level 2 – 75K

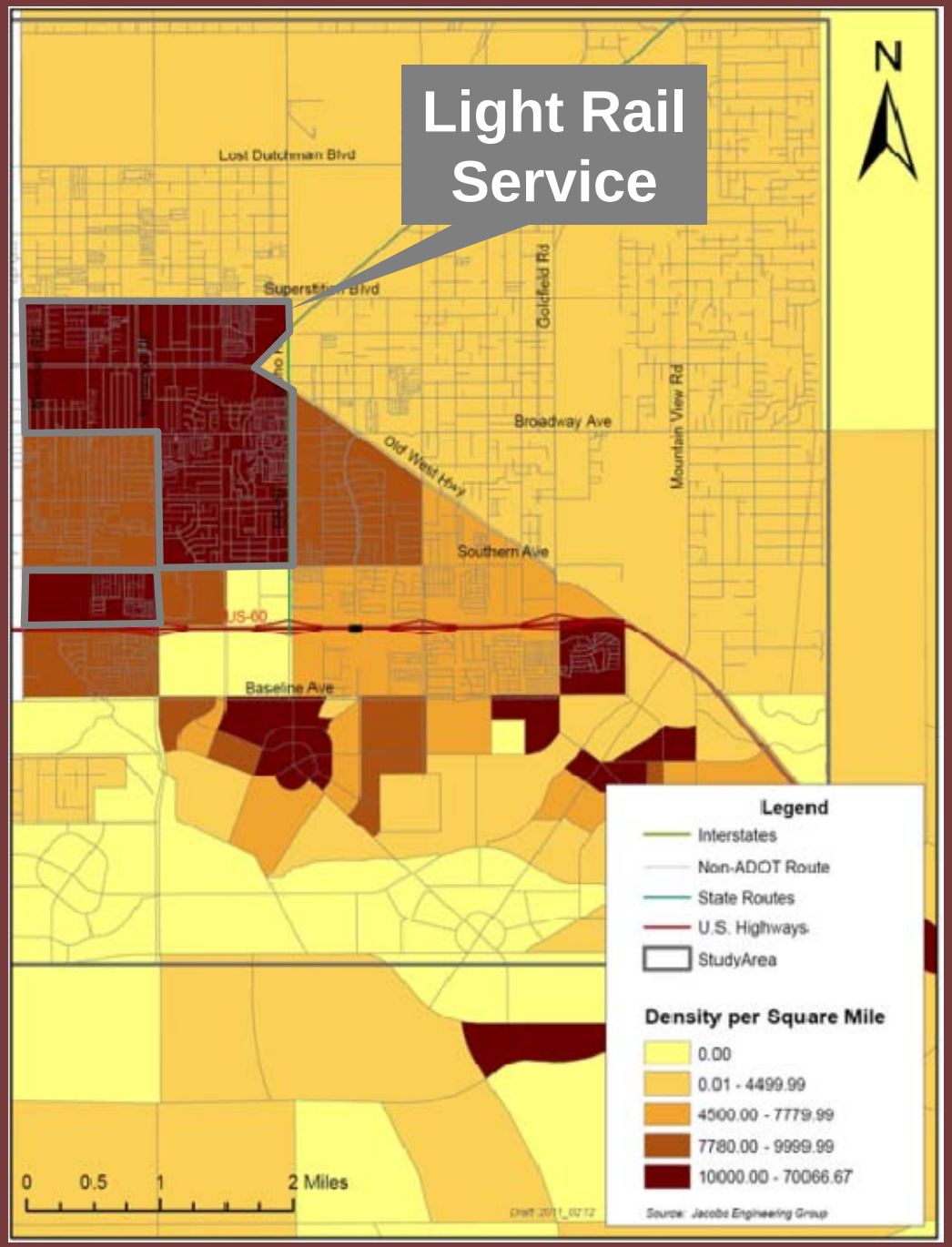
Population and Employment Density By TAZ

Per Square Mile



## Population Level 3 – 130K

Population And Employment Density By TAZ Per Square Mile



# Estimated Annual Transit Trips For The Population Levels

| Burkhardt and Millar Model | 60K Level | 75 K Level | 130 K Level |
|---|---|---|---|
| Population over 65 Years of Age | 15,829 | 19,786 | 34,295 |
| Multiplied by 12 equals | 189,942 | 237,428 | 411,542 |
| Added to Population of Zero Car Households | 8,351 | 10,439 | 18,094 |
| Multiplied by 19 | 158,671 | 198,339 | 343,787 |
| Totals | 348,613 | 435,767 | 755,329 |
| Divided by .8 Equals Unlinked Passenger Trips per Year | 435,767 | 544,709 | 944,161 |

# Estimated Annual Transit Trips For The Population Levels

| SG & Associates Arkansas Model | 60K Level | 75 K Level | 130 K Level |
|---|---|---|---|
| Population over 65 Years of Age | 15,829 | 19,786 | 34,295 |
| Multiplied by 8.4 | 132,960 | 166,200 | 288,079 |
| Added to Mobility Limited Population Aged 16 through 64 | 7,856 | 9,820 | 17,021 |
| Multiplied by 30 | 235,674 | 294,592 | 510,626 |
| Added to Low-income Population Under 65 Years of Age | 5,274 | 6,592 | 11,427 |
| Multiplied by 14.5 | 76,470 | 95,587 | 165,684 |
| Totals Unlinked Passenger Trips per Year | 445,103 | 556,379 | 964,390 |

# Summary of Future Transit Conditions

- At 60,000 population level average of 440,000 unlinked trips
- At 75,000 population level,  550,000 unlinked trips
- At 130,000 population level, 954,000 unlinked trips
- At 60,000 population level minimum bus service could be operated in City core area
- At 75,000 population level, intermediate bus service could be operated
- At 130,000 population level, Apache Trail corridor density could support light rail

# PUBLIC MEETING DISPLAY BOARDS

# Public Meeting Display Boards

- Goals and Objectives for the Study

## GOALS AND OBJECTIVES

***Preserve existing transportation system while enhancing safety and efficiency***

- Develop a pavement preservation plan of existing roadways
- Address structural and functional deficiencies of bridges
- Perform traffic analysis at critical intersections and recommend operational improvements
- Improve emergency response times and review evacuation plans
- Identify low-cost improvements that significantly enhance the efficiency of the City's transportation system
- Develop access management guidelines
- Address flooding issues

***Enhance mobility, accessibility, and reliabilty of travel by providing additional transportation choices***

- Identify new connector roads that will reduce congestion and improve traffic circulation
- Evaluate roadway capacity needs
- Enhance regional connectivity
- Evaluate transit options including access to the proposed Mesa Light Rail terminus or extension of the rail service, and evaluate BRT options
- Develop a connectivity plan for intergrated vehicular and pedestrian mobility between activity centers (local and regional)
- Complete a transit feasibility study and develop an implementation plan
- Address pedestrian, bicycle, and trails (including equestrian trails) needs

***Develop a demand responsive Transportation Plan that is based on an integrated land use and transportation system***

- Integrate Portalis Master Plan efforts
- Integrate Apache Junction General Plan efforts
- Review growth trends in Apache Junction and neighboring communities
- Identify corridors for right-of-way preservation and establish roadway cross-section guidelines
- Establish traffic impact guidelines for new developments
- Develop funding strategies
- Ensure that recommended improvements complement regional transportation plans

***Continued communication with public and stakeholders***

- Provide timely and early opportunities for comprehensive public input into the development of the transportation plan
- Identify the best methods to maintain communication with public and stakeholders
- Identify and involve key stakeholder groups

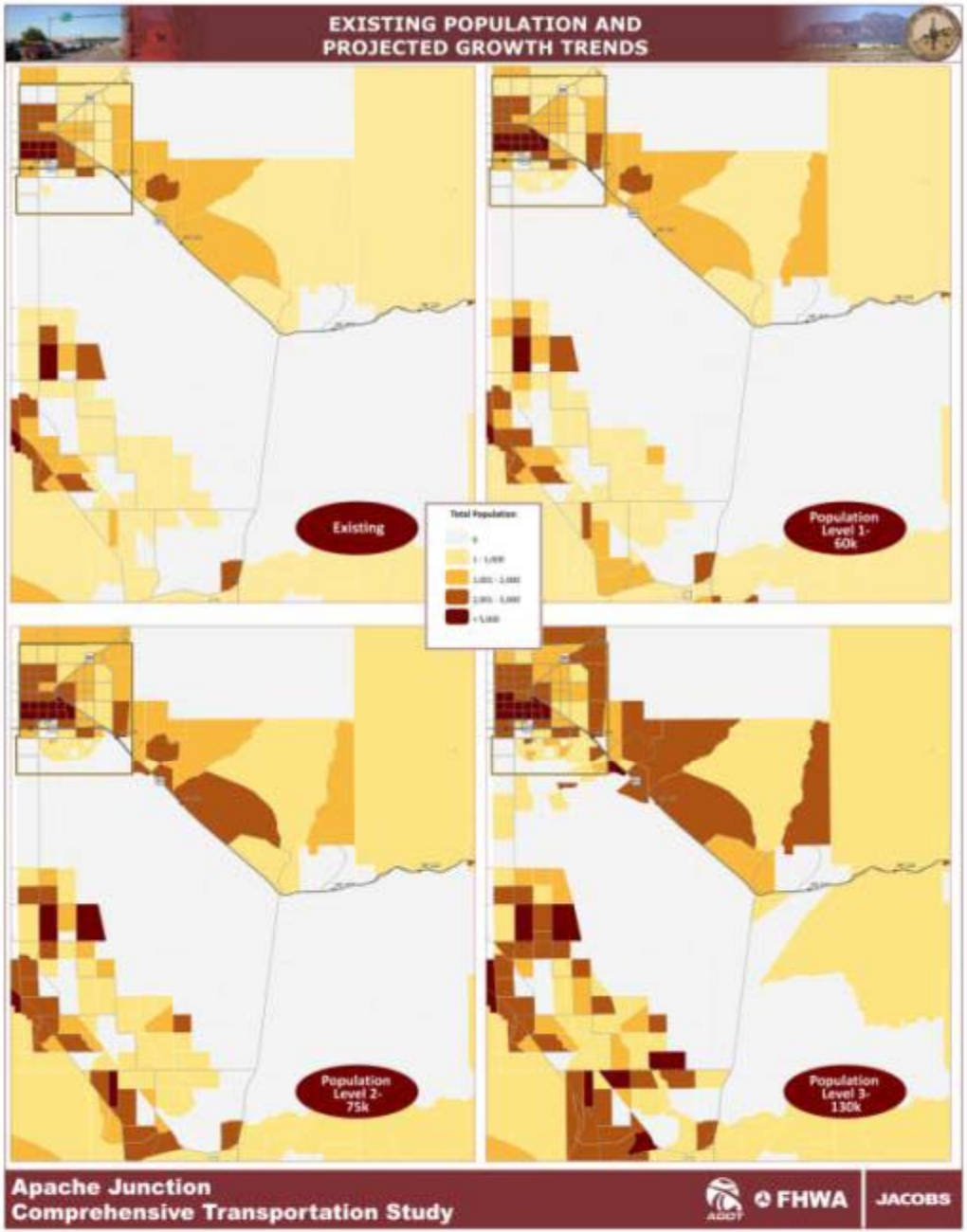
Apache Junction
Comprehensive Transportation Study

# Public Meeting Display Boards

- Study Area Issues
  - Safety and Congestion
  - Environmental
  - Regional

# Public Meeting Display Boards

- Existing and Project Growth Trends

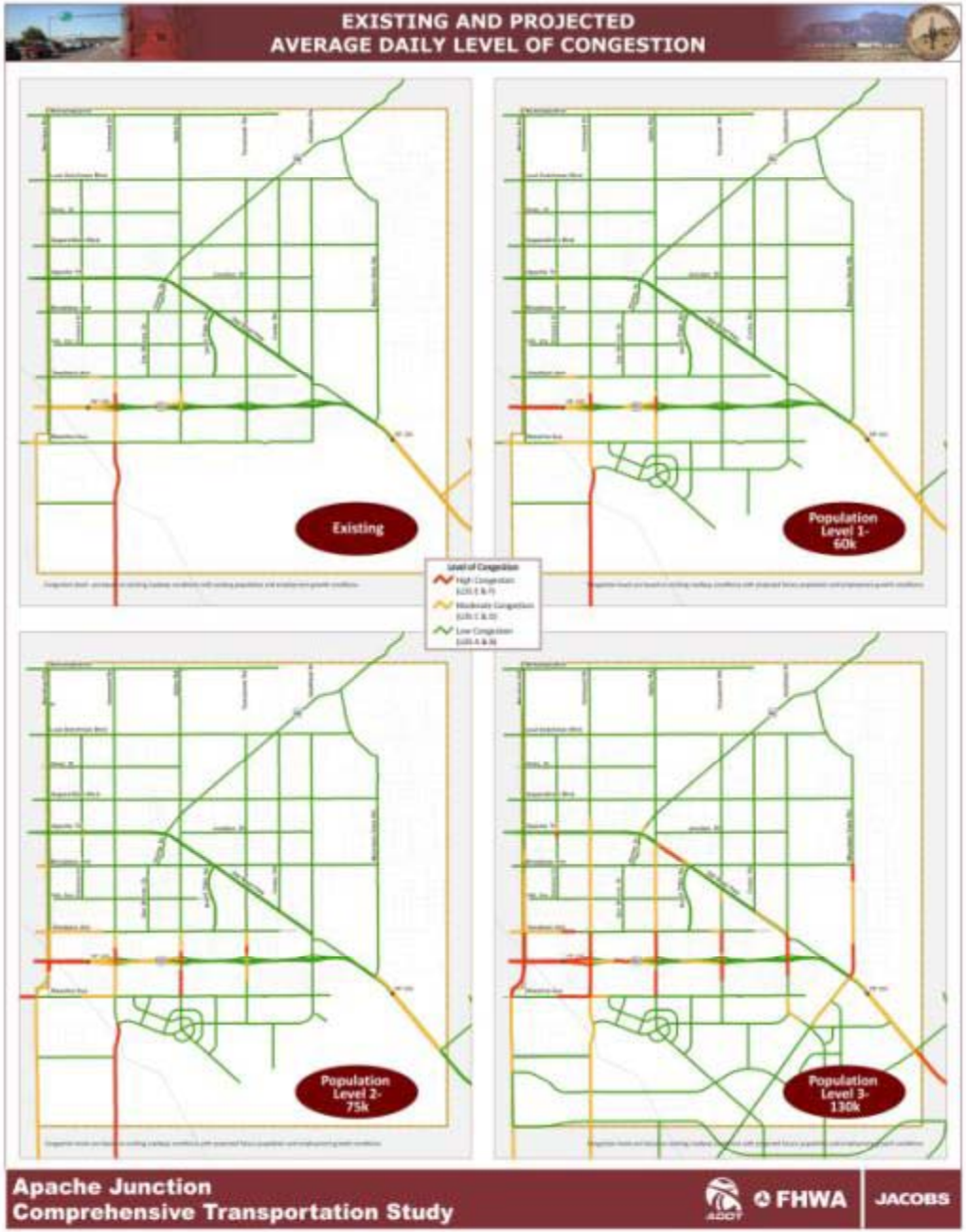


# Public Meeting Display Boards

- Traffic Volumes for each population level

# Public Meeting Display Boards

- Congestion Levels for each population level



# PUBLIC INVOLVEMENT DISCUSSION

# QUESTIONS?

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**OR**
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**http://www.azdot.gov/MPD/Systems_Planning/apache_junction.asp**