

BURGESS & NIPLE
Engineers ■ Architects ■ Planners

Old Town Peoria Traffic Study TAC Meeting 2



City of Peoria, Arizona

May 29, 2012





Welcome!

- Project Team
 - Jamal Rahimi – City Project Manager
 - Jason Pagnard – B&N Project Manager
 - Steve Thieken – Lead Traffic Engineer
 - Jamie Blakeman – Traffic Engineer
 - Loreli Cappel – Project Planner
 - Geoff Slater – Transit Specialist
- Meeting attendees



Meeting Purpose & Overview

- Discuss Past and Present Efforts
 - Vision, Goals & Objectives
 - Evaluation Criteria
 - Concept Screening
 - Other Relevant Projects
 - Initial Scenarios
- Transit Discussion
- Land Use Plan & Modeling Discussion
- Scenario Refinement
- Next Steps



VISION STATEMENT



VISION

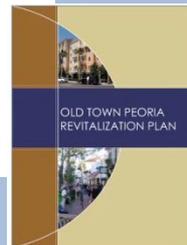
A multi-modal transportation network for the Old Town that is people-centric. The future system is safe, efficient & effective, and creates a vital business and residential environment.





OTPRP GOALS & PMTP OBJECTIVES

Old Town Peoria Revitalization Plan

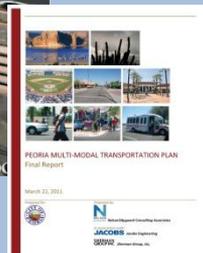


Peoria Multi-Modal Transportation Plan

Old Town Transit Center—Phase 1 (Mid-Term)



Old Town Transit Center—Phase 1 (Long-Term)





Evaluation Criteria

■ Vehicles

- Provides Adequate Access, Circulation, and Safety for Vehicles in a High Quality Environment

■ Bicycling

- Provides for Excellent Bicycling Convenience, Safety and High Quality Environment

■ Pedestrian

- Provides for Excellent Pedestrian Convenience, Safety and High Quality Environment

■ Public Transportation

- Provides for Excellent Public Transportation Options and High Quality Environment

■ Parking

- Convenient On-Street Parking for a Variety of Land Uses



Evaluation Criteria - Vehicles

5 criteria

1. Provides appropriate automobile levels of service (ALOS) for street classification. Goal of ALOS "C" or better for higher priority automobile corridors and goal of ALOS "D" for other corridors. ALOS based on average vehicle delay due to traffic control.
2. No individual intersection movement to have LOS "F" or volume to capacity ratio of >1.0 .
3. Provides high level of quality street signage and wayfinding.
4. Provides excellent circulation between generators, attractors, and/or activity centers and good access to parking areas.
5. Provides excellent connectivity to Grand Avenue and other roads of regional significance.



Evaluation Criteria - Bicycling

4 criteria

1. Provides appropriate bicycle levels of service (BLOS) for street classification. Goal of BLOS "C" or better for higher priority bicycling corridors and goal of BLOS "D" for other corridors. BLOS based on:
 - a) Vehicular turning movement flows – permitted left and right-on-red
 - b) Vehicular travel speed
 - c) Presence of on-street parking or bike lanes
 - d) Cross street, outside through lane, and shoulder widths
 - e) Signalized intersection delay
 - f) Pavement condition
 - g) Access management along sections



Evaluation Criteria - Bicycling

4 criteria

2. Provides for quality bicycle connectivity between generators, attractors and/or activity centers including:
 - a) Parks
 - b) Transit stops
 - c) Schools
 - d) Residential areas
 - e) Commercial/retail areas
 - f) Surrounding areas of Peoria
3. Increase in number of bicycling facilities.
4. Increased opportunities for high quality bike parking.



Evaluation Criteria - Pedestrian

5 criteria

1. Provides appropriate pedestrian levels of service (PLOS) for street classification. Goal of PLOS “C” or better for higher priority pedestrian corridors and goal of PLOS “D” for other corridors. PLOS based on:
 - a) Vehicular turning movement flows – permitted left and right turn on-red
 - b) Vehicular travel speed on adjacent street
 - c) Walkway and crosswalk widths
 - d) Crosswalk lengths
 - e) Pedestrian signal heads at intersections
 - f) Pedestrian and vehicular volumes
 - g) Signal phasing and cycle lengths
 - h) Crossing wait times
 - i) Proximity of pedestrian way to travel lane and existence of a barrier



Evaluation Criteria - Pedestrian

5 criteria

2. Provides generous sidewalk widths for adjacent uses.
3. Provides a comfortable walking environment including:
 - a) Shade
 - b) High quality pedestrian amenities
4. Provides for pedestrian pathway connectivity between major generators, attractors and/or activity centers including:
 - a) Parks
 - b) Transit Stops
 - c) Schools
 - d) Residential areas
 - e) Commercial/retail areas
 - f) Surrounding areas of Peoria
5. Provides safe pedestrian crossings of streets at convenient locations and spacing.



Evaluation Criteria – Public Transportation

4 criteria

1. Provides appropriate transit levels of service (TLOS). Goal of TLOS “C” or better for corridors with transit. TLOS based on:
 - a) Travel time for passengers
 - b) High quality bus stop amenities (benches, shelters, shade, etc.)
 - c) The pedestrian LOS adjacent to the transit stop
 - d) Transit frequency (headways)
 - e) Transit vehicle amenities
 - f) Transit vehicle running speed (affected by “on-line” versus “pull-off” stops)
 - g) Exclusive transit lanes
 - h) Transit stop location (near-side versus far-side)
2. Increase number of convenient transit stops in Old Town that are accessible by auto, walking, and bike modes.
3. Increases number of north-south bus routes.
4. Supports the development and integration of connections to regional transit including bus and commuter rail.



Evaluation Criteria – Parking

3 criteria

1. Maximizes number of on-street parking spaces for short-term use.
2. Provides for appropriate turn-over time frames bases on adjacent land use / businesses.
3. Maximizes shaded parking opportunities.



Three questions were asked of the pertinent OTPRP and PMTP recommendations:

- 1 Does it align with the Study vision?
- 2 Does it support the OTPRP and PMTP goals and objectives?
- 3 Is it feasible and within the focus of this Study?



A total of **29** concepts were evaluated

- **7** have already been completed or are in progress

- **4** were eliminated

leaving **18** feasible concepts



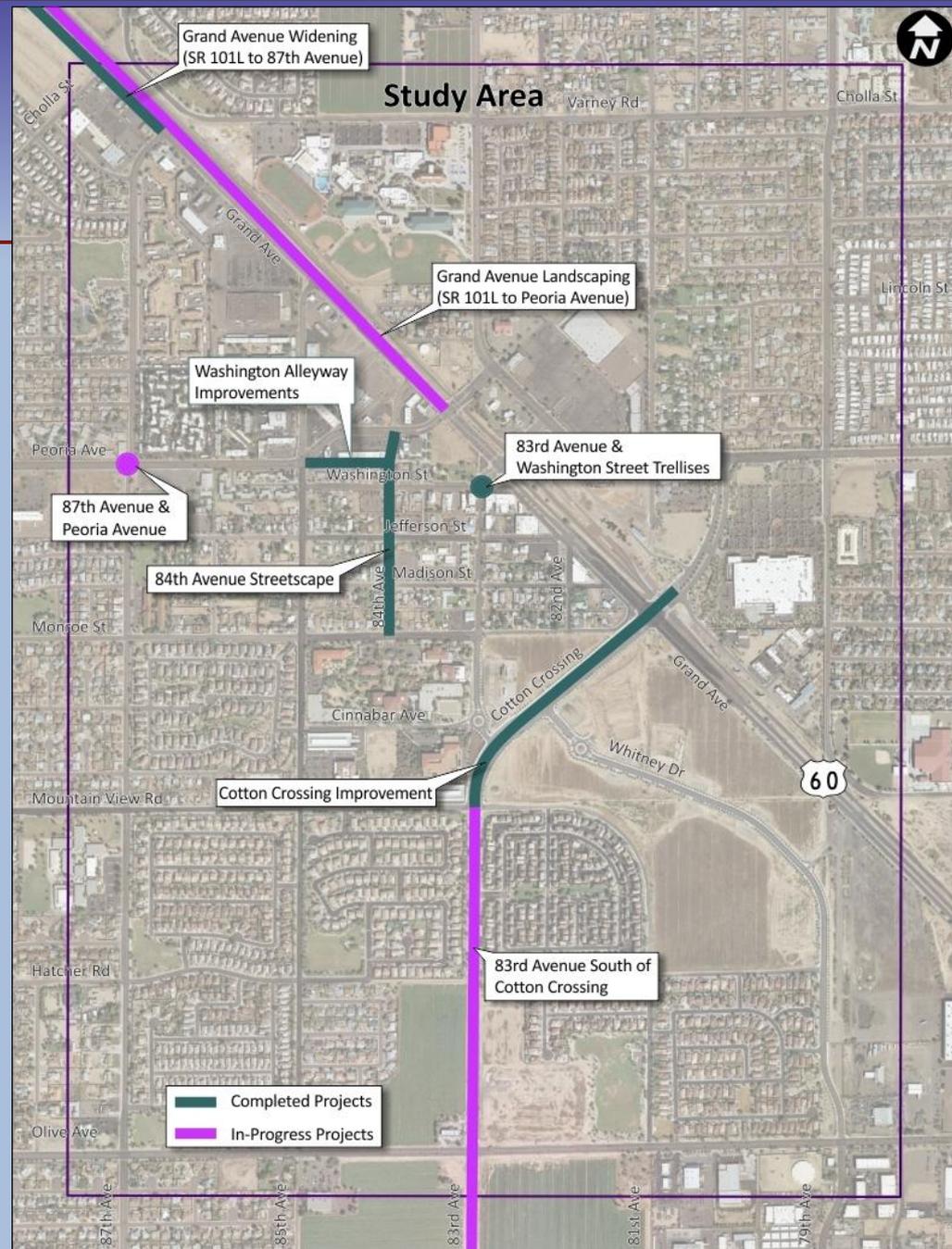
Concept Screening Completed and In Progress

COMPLETED

1. Construct Trellises at 83rd Avenue and Washington Street
2. 84th Avenue Streetscape Improvements
3. Washington Alleyway Improvements
4. Cotton Crossing Improvement
5. Grand Avenue Widening Project (SR 101L to 87th Avenue)

IN PROGRESS

1. Design & Construct 83rd Avenue Improvement South of Cotton Crossing
2. Grand Avenue Major Improvement Study Phase 2 Project (Landscape & Lighting)

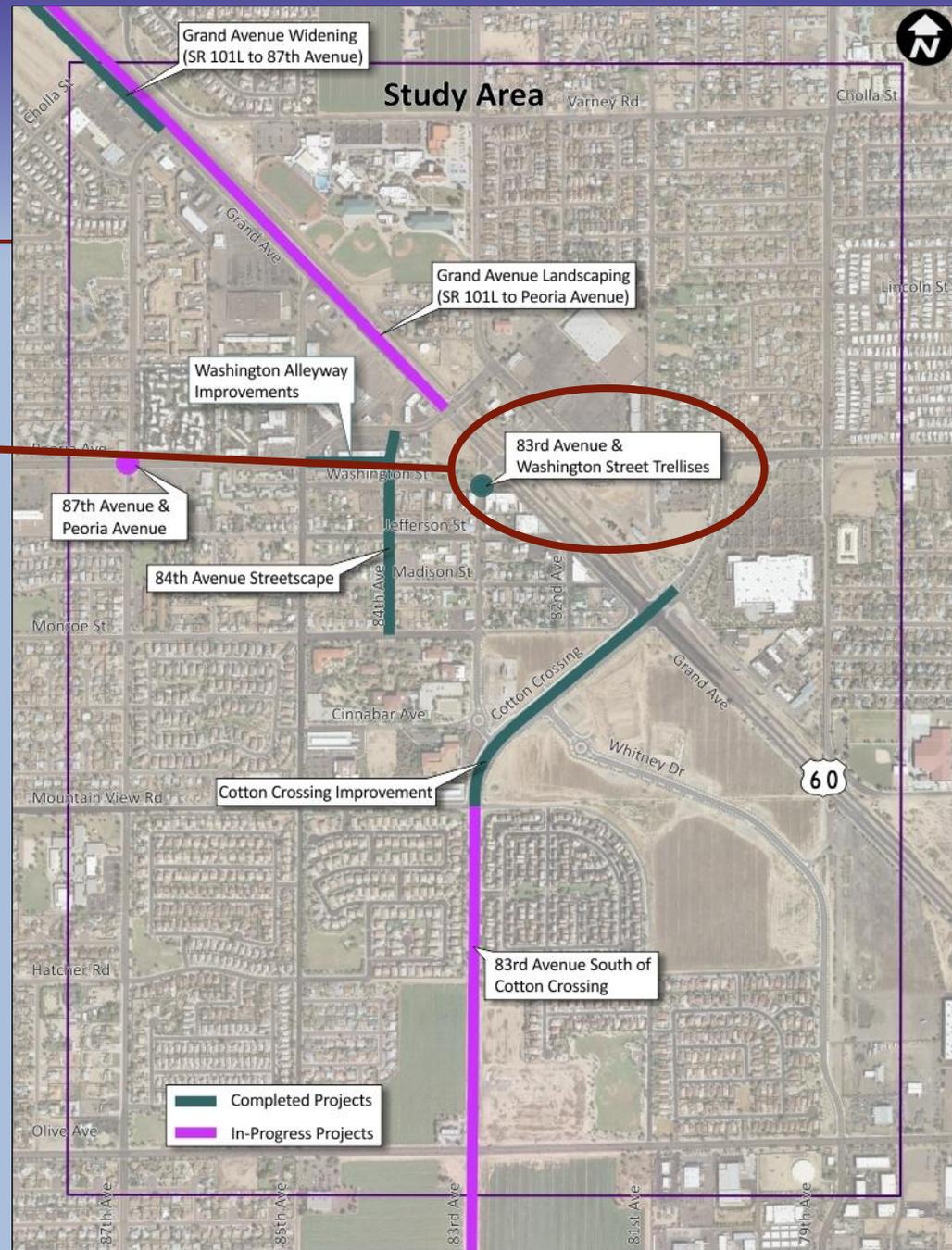




Concept Screening Completed and In Progress

Status: **CONSTRUCTED**

Construct Trellises at 83rd
Avenue and Washington
Street





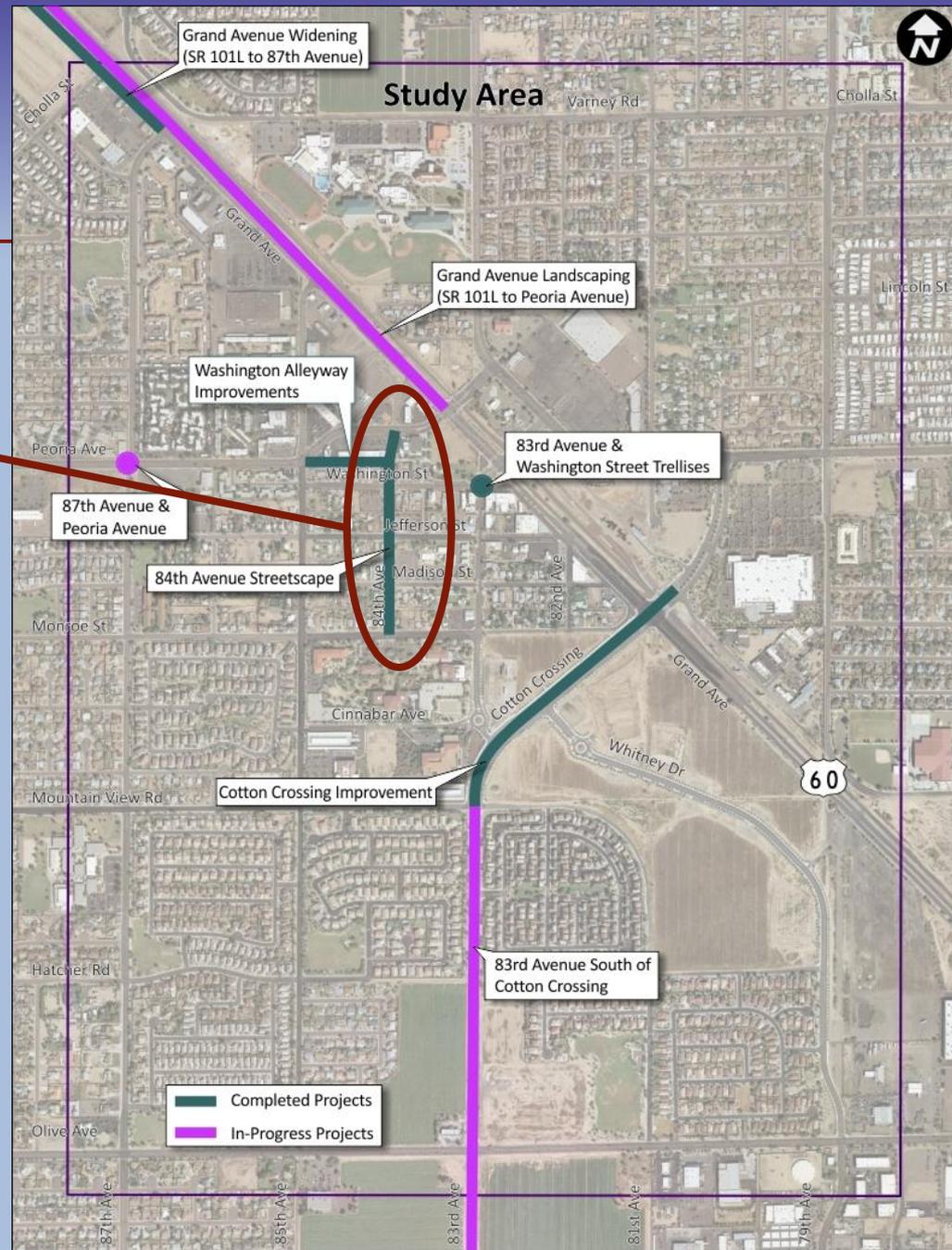
Concept Screening Completed and In Progress

Status: **CONSTRUCTED**

84th Avenue Streetscape Improvements

Project Included:

- Sidewalks
- Landscaped Roadway Medians
- Landscaping
- Utility Relocations & Undergrounding
- Roadway Resurfacing
- Pedestrian Amenities





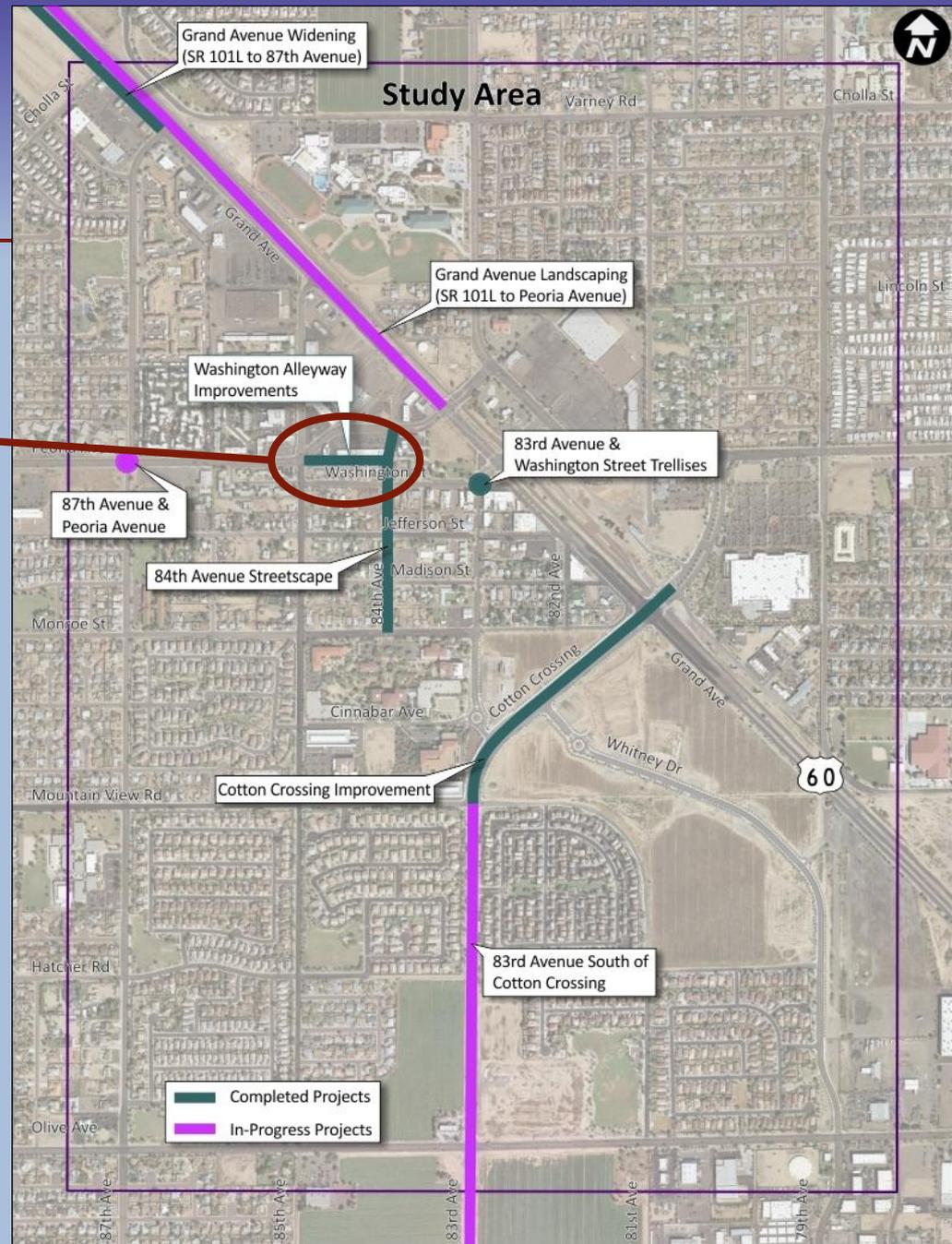
Concept Screening Completed and In Progress

Status: **CONSTRUCTED**

Washington Alleyway Improvements

Project Included:

- Drainage Improvements
- Undergrounding Utilities





Concept Screening Completed and In Progress

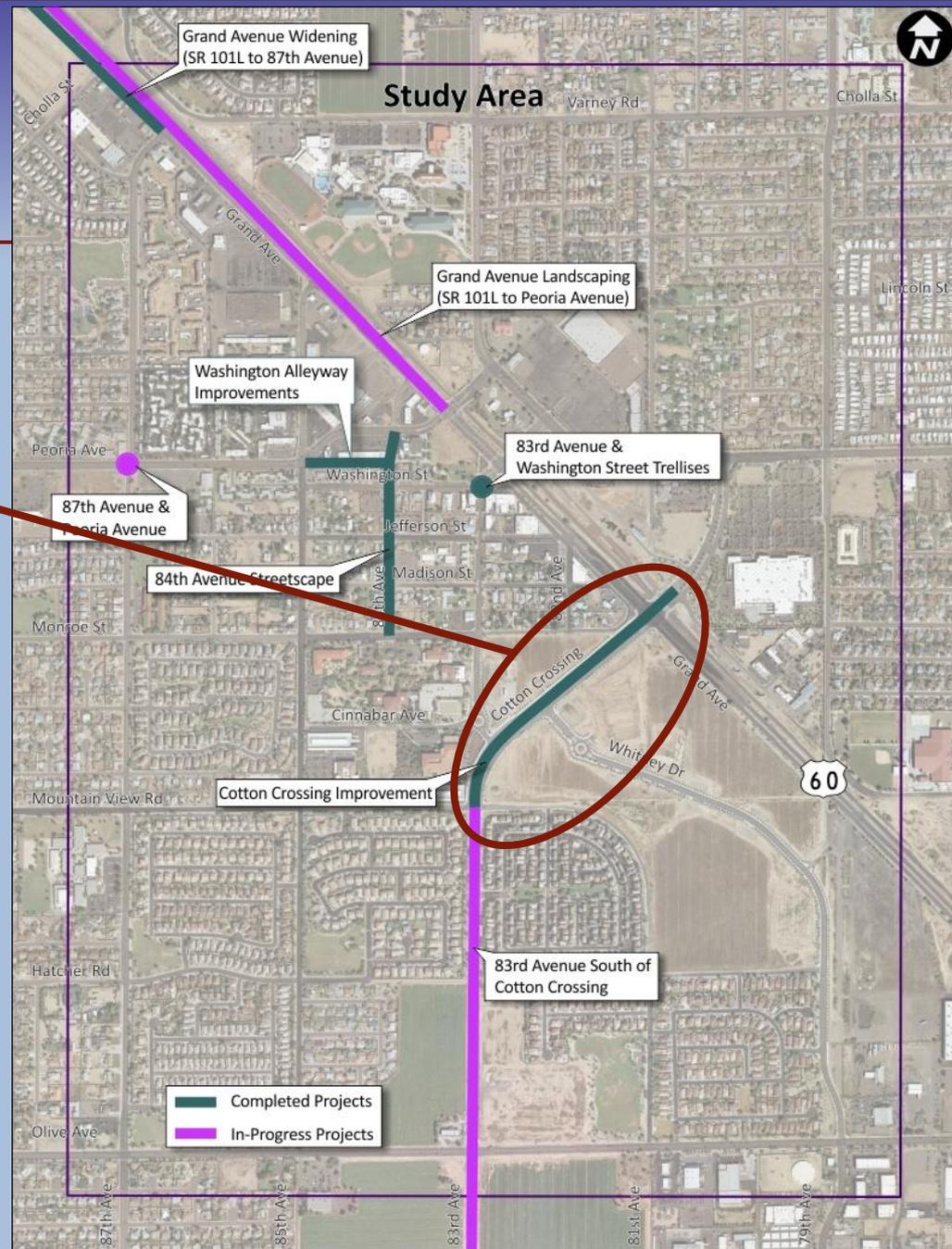
Status: **CONSTRUCTED**

Cotton Crossing
Improvement

(Mountain View Road to
Grand Avenue)

Project Included:

- Three Northbound Lanes
- Two Southbound Lanes
- Bike Lanes
- Turn Lanes
- Landscaped Roadway Medians
- Landscaping
- Street Lighting





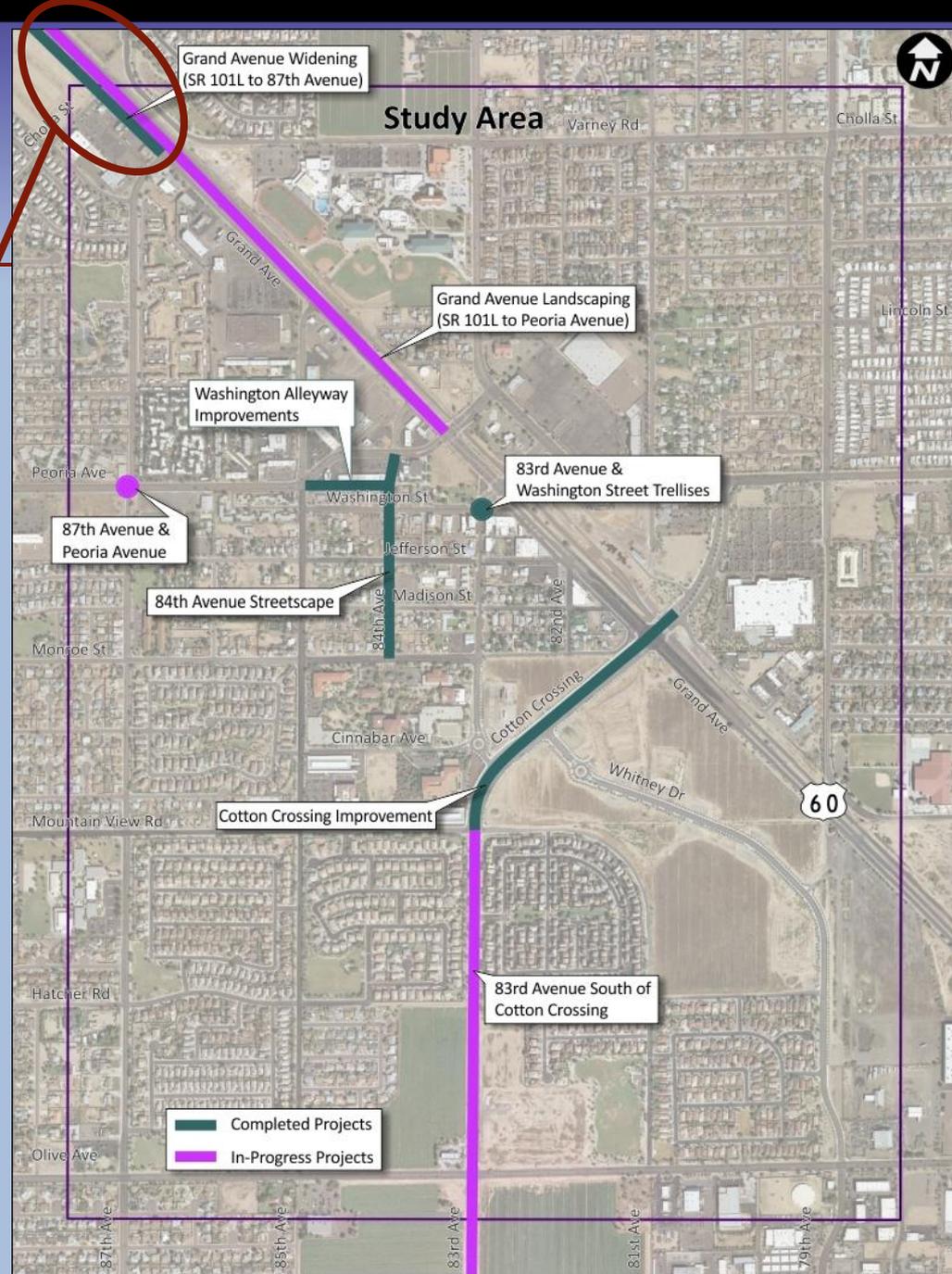
Concept Screening Completed and In Progress

Status: **CONSTRUCTED**

Grand Avenue Widening Project (SR 101L to 87th Avenue)

Project Included:

- Widening – Three Lanes for Each Direction
- Landscaped Roadway Medians
- Sidewalk
- Street Lighting





Concept Screening Completed and In Progress

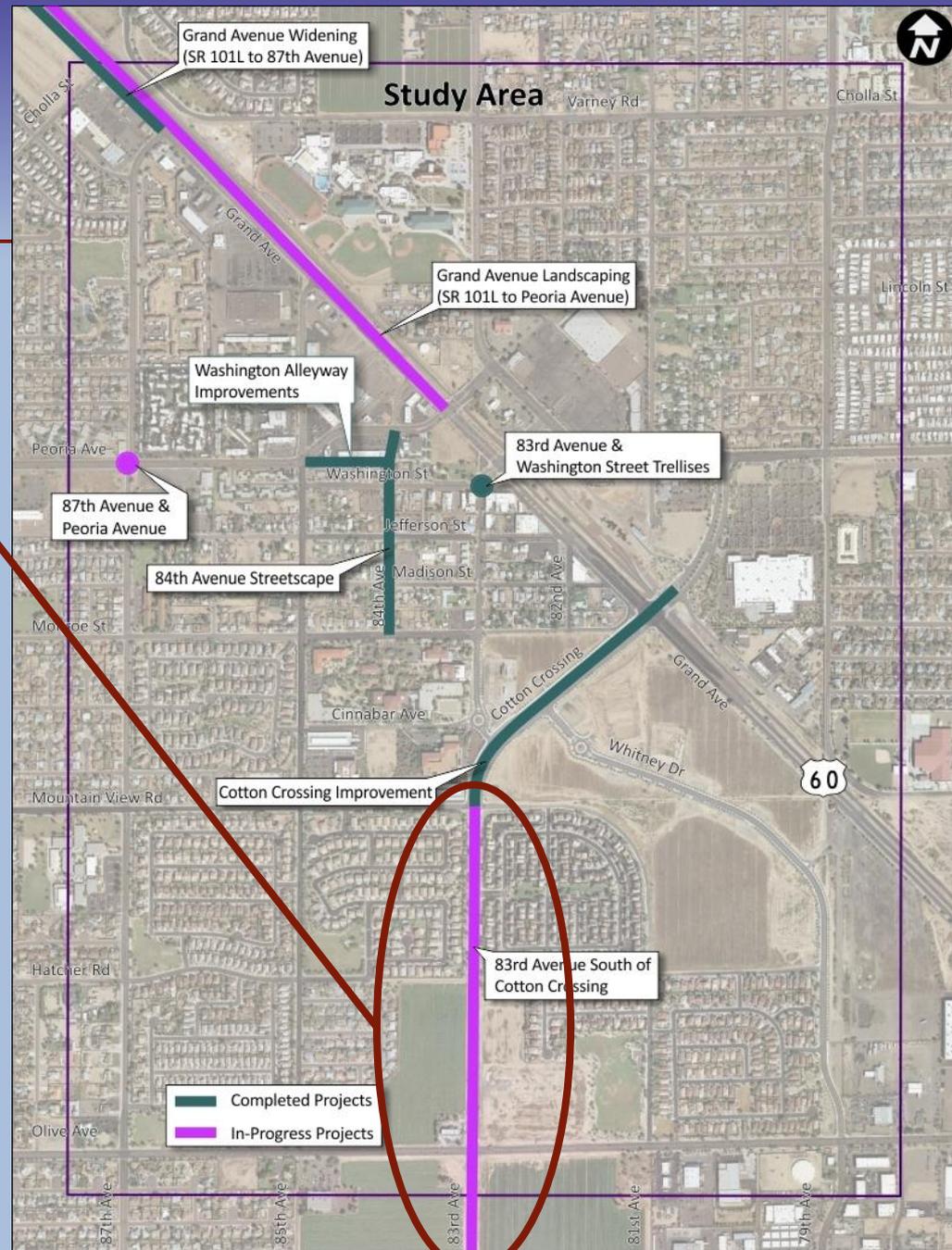
Status: IN PROGRESS

Design & Construct 83rd Avenue Improvement South of Cotton Crossing (Mountain View Road to Butler Drive)

- Design – Completed
- Construction – May 2012
- Anticipated Completion – May 2013

Project Includes:

- Widening – Two Lanes for Each Direction
- Bike Lanes
- Raised Landscaped Medians
- Transit Stops





Concept Screening Completed and In Progress

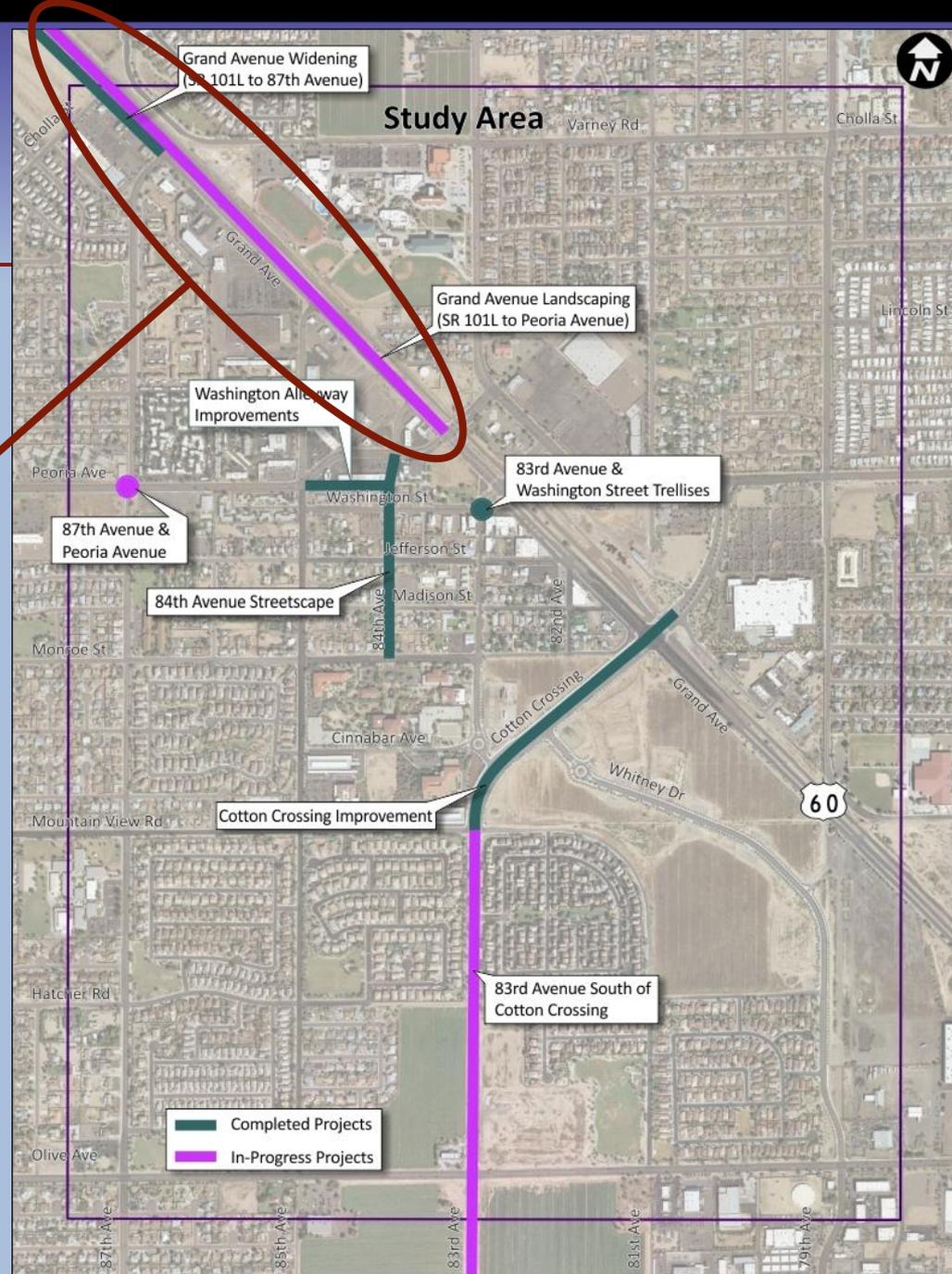
Status: **IN PROGRESS**

Grand Avenue Landscaping Project
(Loop 101 to Peoria Avenue)

- Design – Completed
- Construction – Begin Summer 2012

Project Includes:

- Median and Roadside Landscaping
- New Street Lighting
- Wrought Iron Fencing (North Side)
- Pedestrian Lighting (North Side)
- Sidewalks (North Side)





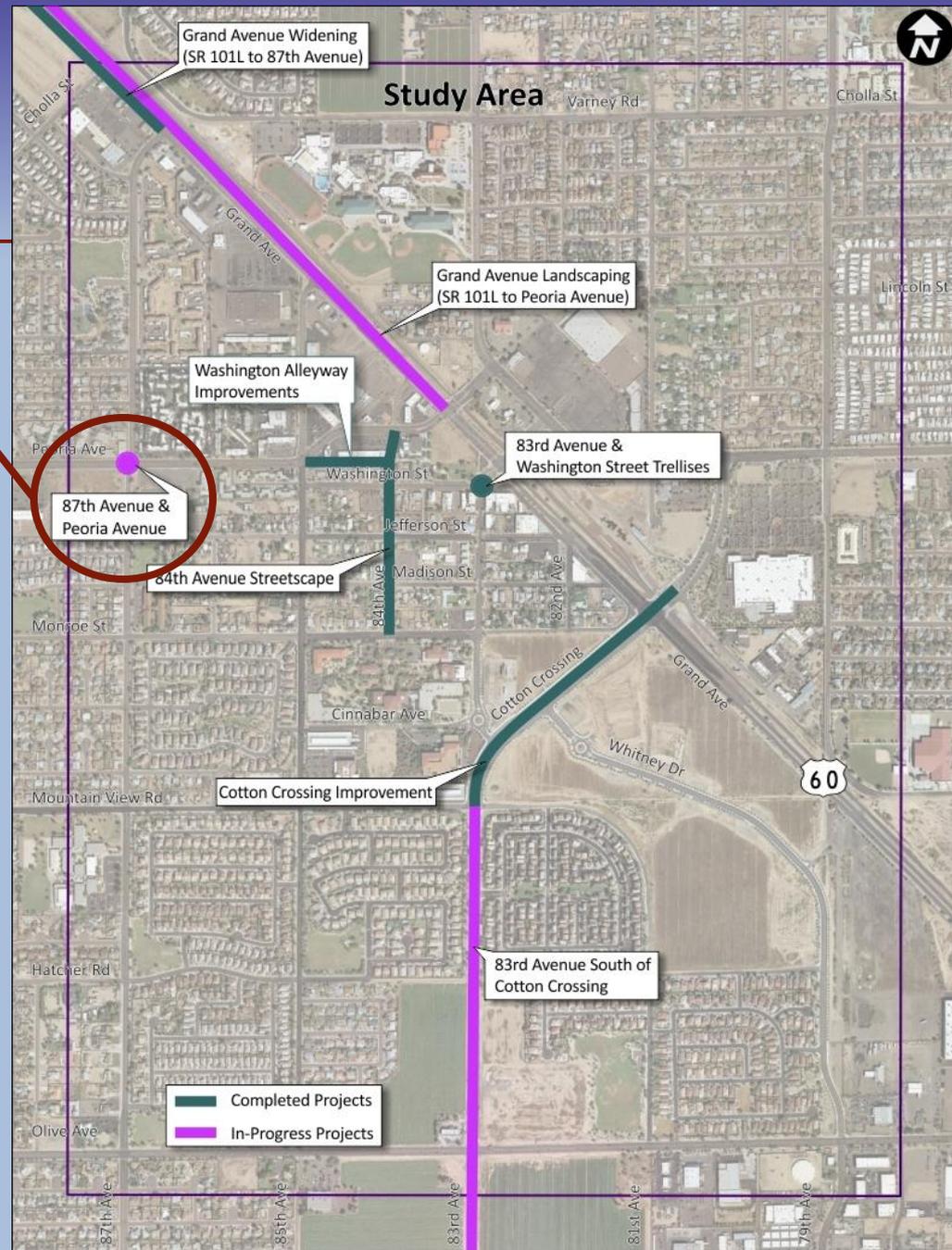
Other Relevant Projects

Intersection of 87th Avenue and Peoria Avenue

Budget is allocated from FY 2019 through FY 2021

Project Includes:

- Realignment of the South Leg
- Traffic Signal Modification
- Installation of Curb, Gutter & Sidewalk





Concept Screening – Eliminated

1. Accommodate Light Rail Transit in Street Improvements as per PMTP

The PMTP concluded that extending the light rail through Peoria would not be feasible because the projected ridership would be too low to justify the associated costs.

2. Establish Neighborhood Circulator/Old Town Trolley as per the PMTP

The PMTP explored a number of local service alternatives, none of which included an Old Town Trolley. Extending existing bus lines into Peoria was of greater importance. The PMTP TAC concurred and was not in favor of this concept.

3. Investigate Agreement for Creating Additional Parking for Center for the Performing Arts

The OTPRP Action Plan lists this as a short-term (0-1 year) action plan that is currently unfunded. Investigating agreement for creating additional parking for the Center for the Performing Arts falls outside of the scope of this Study.

4. Align 83rd Avenue and Whitney Drive

Currently Whitney Drive intersects Cotton Crossing approximately 500-feet north of 83rd Avenue. There are median breaks along Cotton Crossing for both intersections. The current roadway alignments were approved by the City in order to optimize development opportunities within the area, including the proposed Peoria Place development.



Concept Screening – Feasible Concepts for Evaluation

1. Grade Separated Pedestrian Connections across Grand Avenue
2. Depress Grand Avenue between Cotton Crossing and 85th Avenue
3. Peoria Avenue Streetscape Improvements from Loop 101 to the Old Town core
4. Design & Construct Missing Pedestrian Connections & Improve Pedestrian Access at Key Intersections
5. Design and Construct a Grade Separated Promenade
6. Evaluate Options for Enhancing Washington Street (84th Avenue to Grand Avenue) and Monroe Street Streetscape (85th Avenue to Grand Avenue)
7. Establish Additional Pedestrian Lighting in the Old Town Area
8. Evaluate Undergrounding Utility Lines in the Old Town Area
9. Design and Build Peoria Transit Center & Park and Ride Lot



Concept Screening – Feasible Concepts for Evaluation

10. Design and Construct a Multi-Modal Transportation Facility
11. Improve Bus Stops
12. Implement New Transit Route 83 – 83rd Avenue North-South Local Route
13. Develop Grand Avenue Commuter Rail
14. Improve Intersection at Mountain View Road and Cotton Crossing
15. Roundabout at 83rd Avenue and Washington Street as an Entry Feature
16. Evaluate Existing Bus Stop Locations
17. Parking Spaces with Time Limitations for Businesses
18. New 79th Avenue Collector between Whitney Drive and Grand Avenue



The **18** feasible concepts were logically packaged into three Initial Scenarios that bundled sets of network options together for analysis, modeling, and sensitivity analysis.

Scenario A

Scenario B

Scenario C



Scenarios

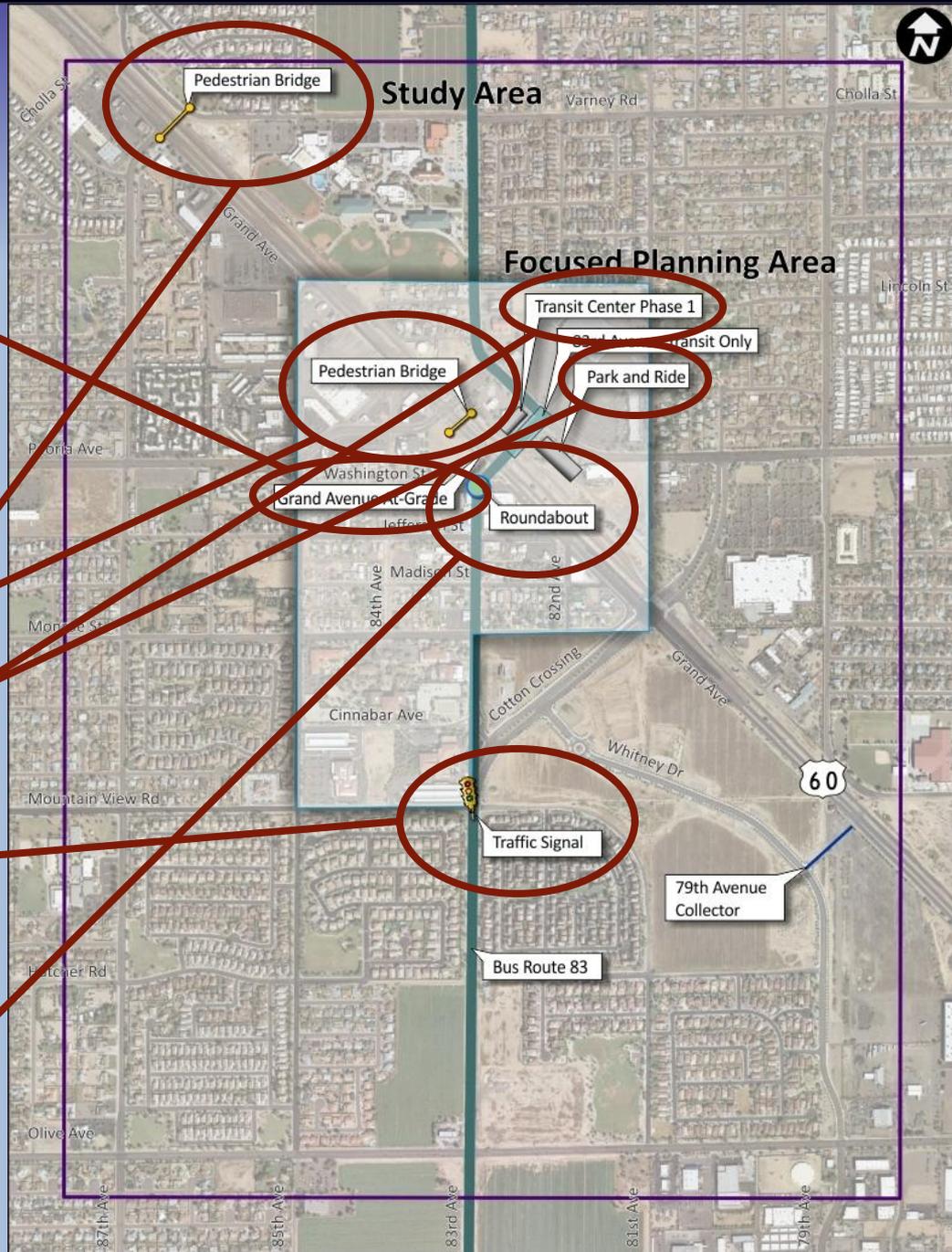
All three Scenarios include the following:

- *Streetscape Projects:*
 - *Peoria Avenue Streetscape (Loop 101 to the Old Town core)*
 - *Washington Street Streetscape (84th Avenue to Grand Avenue)*
 - *Monroe Street Streetscape (85th Avenue to Grand Avenue)*
- *Implementation of a New Transit Route 83 along 83rd Avenue providing a North-South Local Route*
- *Conversion of 83rd Avenue between Grand Avenue and Peoria Avenue to a Transit Only roadway*
- *New 79th Avenue Collector between Whitney Drive and Grand Avenue*
- *Design and Construction of Missing Pedestrian Connections & Improve Pedestrian Access at Key Intersections*
- *Evaluation of Existing Bus Stop Locations & Bus Stop Improvements*
- *Parking Spaces with Time Limitations for Businesses*
- *Wayfinding Signing to the Old Town Area*



Scenario A

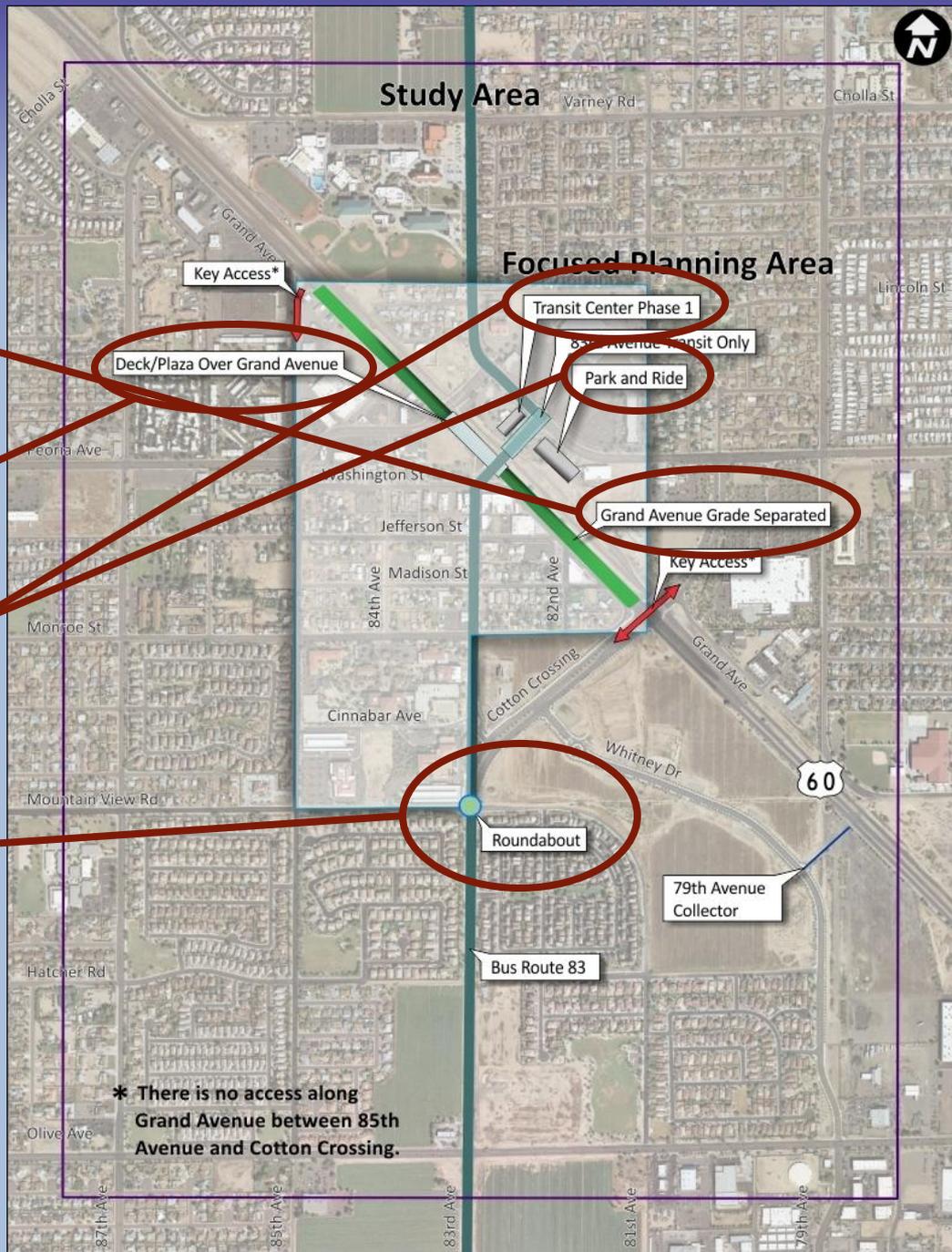
- Grand Avenue - Keeping it At-Grade
- Grade Separated Pedestrian Connections across Grand Avenue
 - At 87th Avenue
 - Between Peoria Avenue and 83rd Avenue
- Peoria Transit Center & Park and Ride Lot
- Traffic Signal at the Intersection of Mountain View Road and Cotton Crossing
- Roundabout Entry Feature at 83rd Avenue and Washington Street





Scenario B

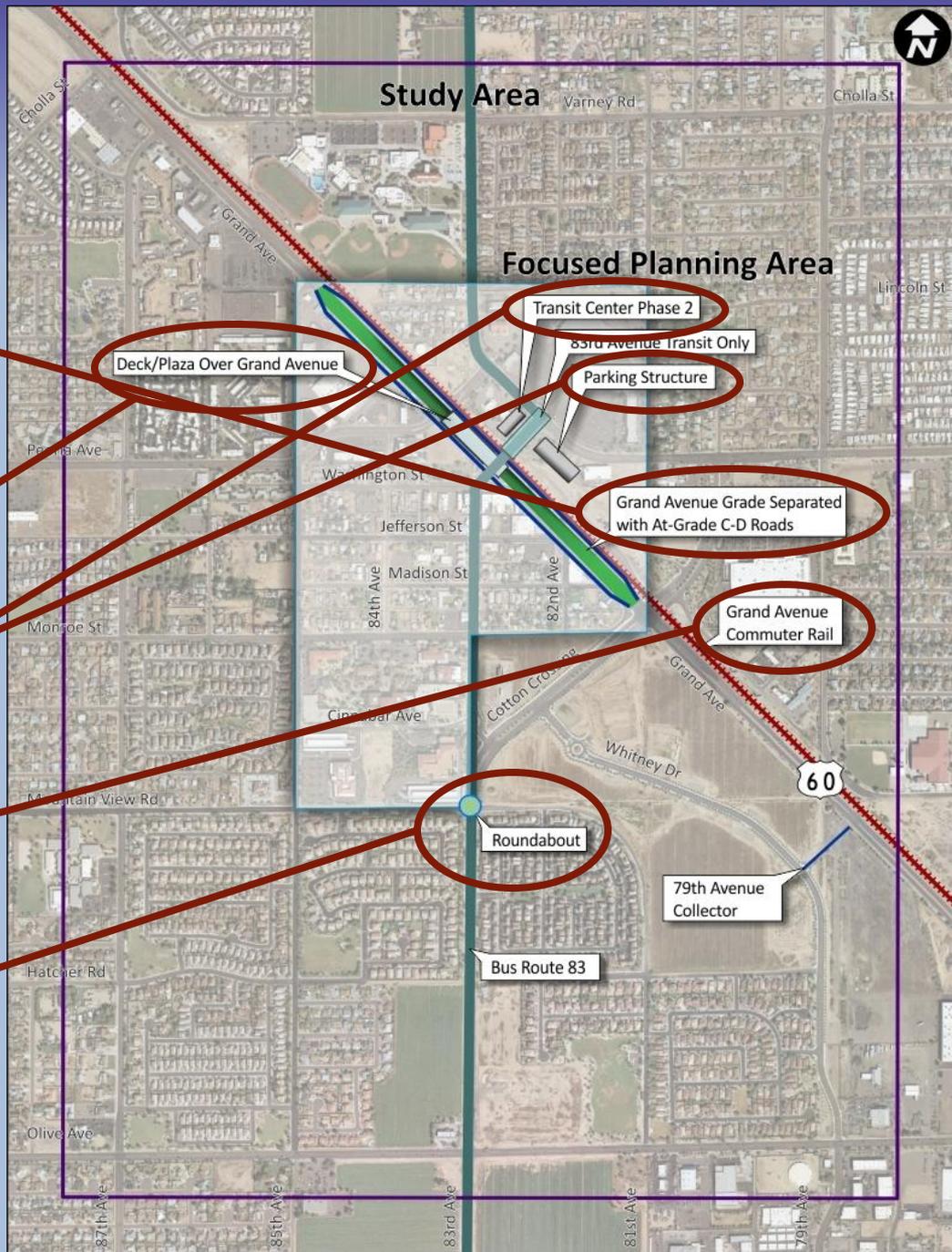
- Grand Avenue – Grade Separated
- Grade Separated Promenade Over Grand Avenue
- Peoria Transit Center & Park and Ride Lot
- Roundabout at the Intersection of Mountain View Road and Cotton Crossing





Scenario C

- Grand Avenue – Grade Separated with C-D roads At-Grade
- Grade Separated Promenade Over Grand Avenue
- Multi-Modal Transportation Facility
- Grand Avenue Commuter Rail
- Roundabout at the Intersection of Mountain View Road and Cotton Crossing





Transit

- Cul-de-Sac at 83rd Avenue
- Transit Center Locations and Phasing



Old Town Transit Center

Develop transit center in multiple phases:

Phase 1

- Provide facilities for Local and express bus services
- Grand Avenue at-grade
- Uses available Prop 400 funding

Future Phases

- Potential implementation of future High Capacity Transit (HCT) options
- Grand Avenue grade separated (depressed)

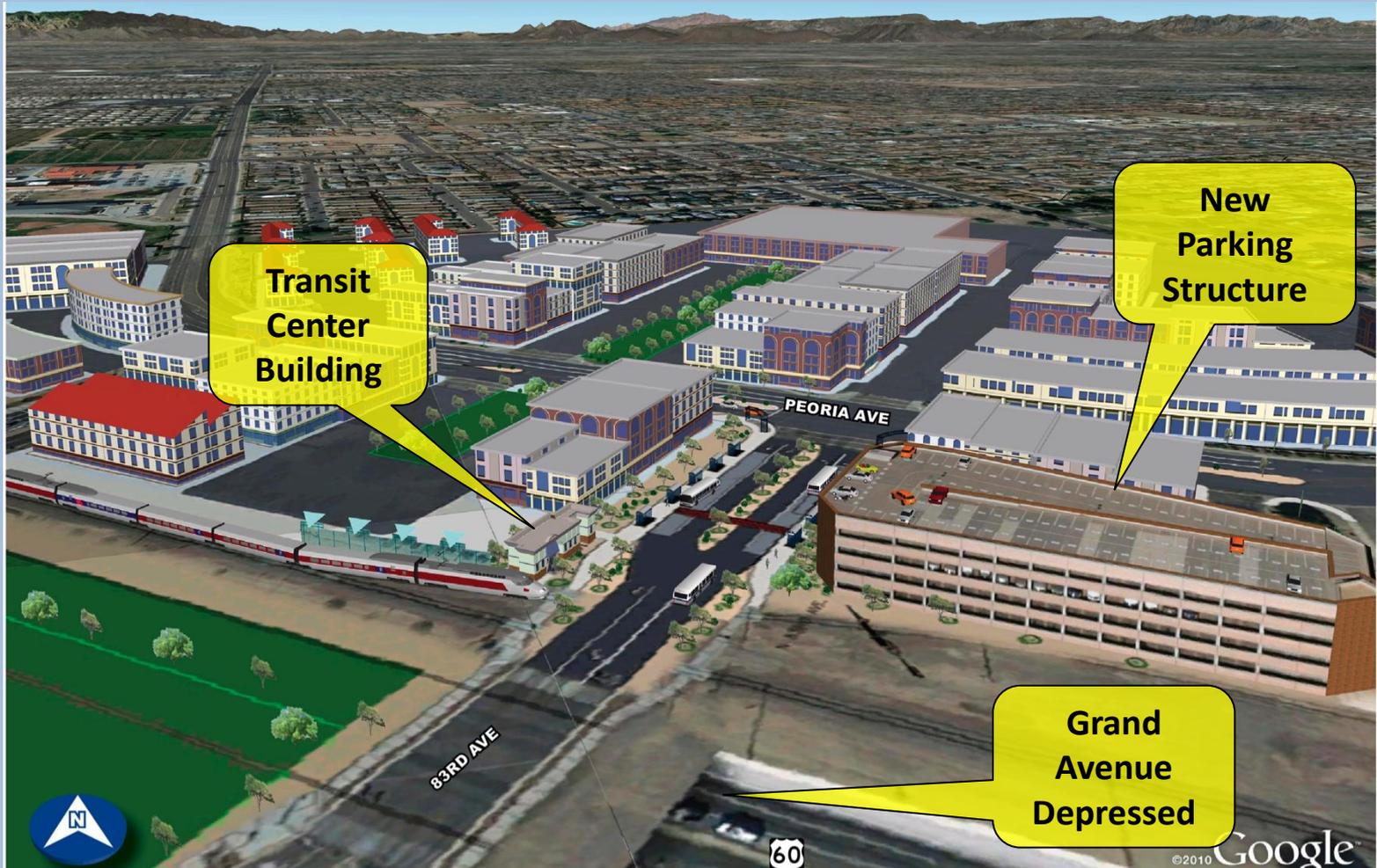


Old Town Transit Center – Phase 1





Old Town Transit Center – Phase 2





Transit Center Options w/o 83rd Ave

Option A Peoria Ave



Disadvantages

- *Buses bypass heart of Old Town*
- *Commuter rail platform not directly adjacent to other modes (one block away)*
- *Longer walks from parking than Option C*

Option C Market Street



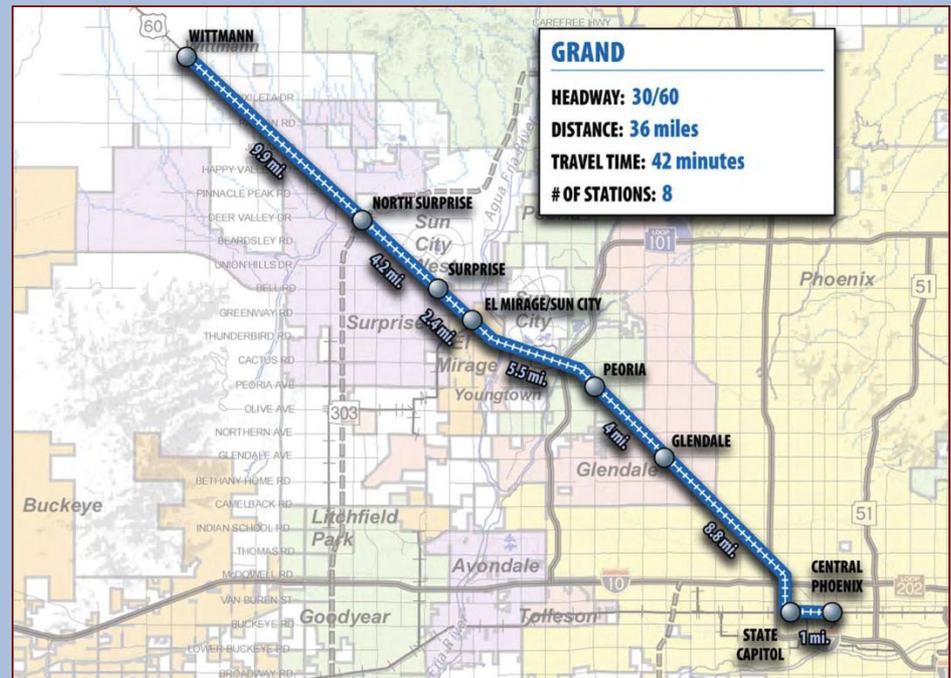
Disadvantages

- *Not well integrated with Old Town*
- *Likely too much on periphery to spur other development*
- *Poor walk access to heart of Old Town*
- *Buses bypass heart of Old Town*



Grand Ave Commuter Rail

- MAG Commuter Rail Strategic Plan found the Grand Avenue commuter rail would be one of the region's most promising potential lines
- MAG is continuing planning efforts
- Commuter rail would operate via the Old Town Transit Center

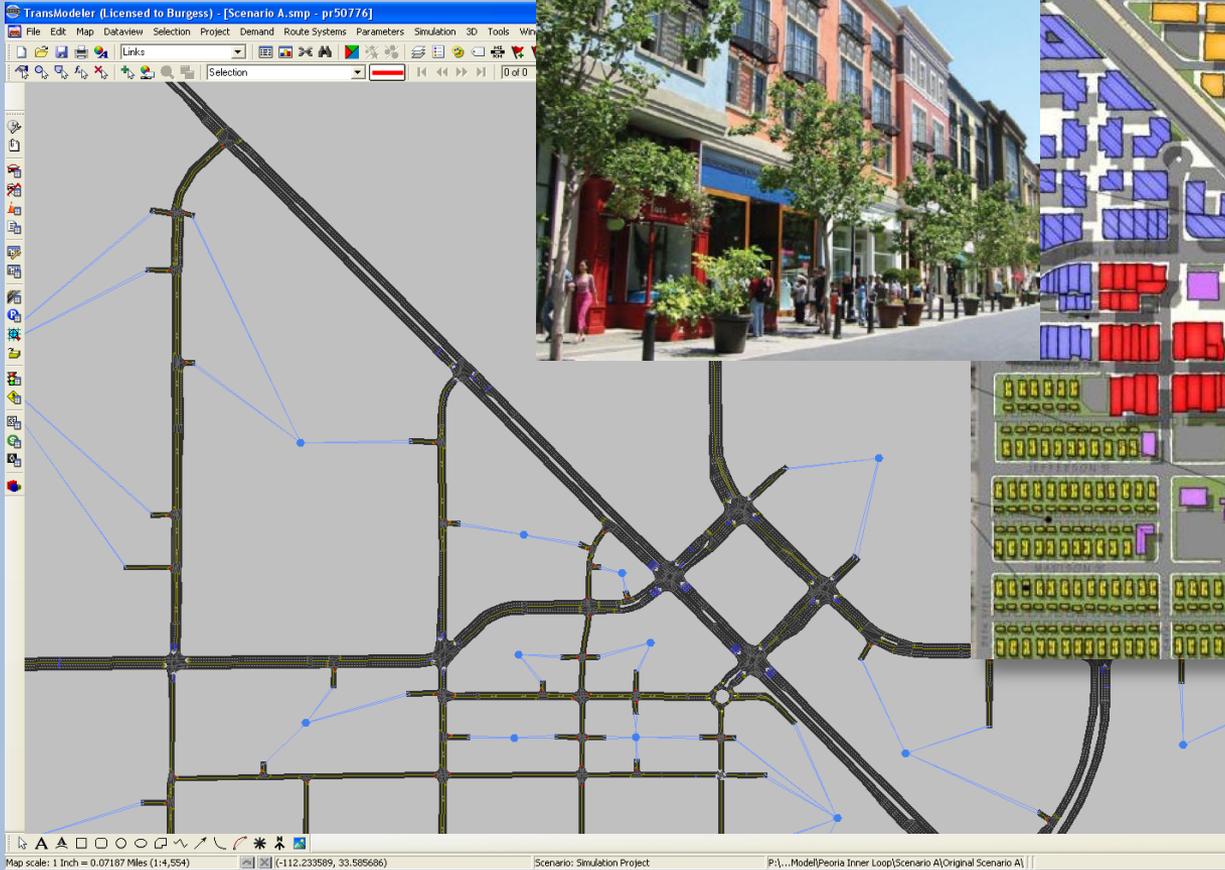




Land Use Plan & Modeling



Land Use / Traffic Modeling





Land Use Plan Refinement

- Approach to estimating density and trip generation for modeling purposes - realistic, while reflecting the Old Town vision

| Land Use Category | | Primary Uses | Density Range (dwelling units/acre) | Target Density (dwelling units) | Maximum Height (feet/stories) |
|-------------------|--|--|-------------------------------------|---------------------------------|-------------------------------|
| Residential /Low | Low Density Residential | Single Family Residential | 2-5 | 3 | 30/2 |
| MDR | Old Town Medium Density Residential | Single and Multi-Family Residential | 5-18 | 12 | 30/2 |
| MHDR | Old Town Medium-High Density Residential | Multi-Family Residential | 18-25 | 22 | 48/3 |
| HDR | Old Town High Density Residential | Multi-Family Residential | 25-40 | 30 | 72/6 |
| CCM | Core Commercial Mixed Use | Retail & service uses w/ integrated residential and office uses | Up to 25 (vertically integrated) | n/a | 36/3 |
| OTCMU | Old Town Commercial Mixed Use | Retail, service, and office uses w/ integrated residential uses | Up to 25 | n/a | 48/4 |
| OMU | Office Mixed Use | Office uses w/ integrated retail and residential uses | n/a | n/a | 36/3 |
| IMU | Light Industrial Mixed Use | Light industrial & office uses w/ integrated retail & support services | n/a | n/a | 60/5 |
| FMU | Flex Mixed Use | Convention, office, hospitality, university, and entertainment uses | n/a | n/a | 100/8 |





Land Use Plan Refinement

| Land Use Category | | Primary Uses | Assumptions (distribution of uses) | Density Range (dwelling units/acre) | Target Density | Maximum Height (feet/stories) |
|-------------------|-------------------------------------|--|---|--|-----------------------|-------------------------------------|
| CCM | Core Commercial Mixed Use | Retail & service uses w/ integrated residential and office uses | 50% - Commercial & Service 25% - Office 25% - Residential up to (25 du /ac) | Up to 25 | 2 stories 15 du/ac | 36/3 |
| OTCMU | Old Town Commercial Mixed Use | Retail, service, and office uses w/ integrated residential uses | 70% - Retail/service 10% - Office 20% - Residential | Up to 25 | 3 stories 20 du/ac | 48/4 |
| OMU | Office Mixed Use | Office uses w/ integrated retail and residential uses | 70% - Office 20% - Residential 10% - Retail/Service (ground floor) | Up to 10 | 2 stories | 36/3 |
| IMU | Light Industrial Mixed Use | Light industrial & office uses w/ integrated retail & support services | 30% - Office Park 65% - Light Industrial 5% - Support Retail | n/a | 3 stories | 60/5 |
| FMU | Flex Mixed Use | Convention, office, hospitality, university, and entertainment uses | 10% - Hotel 10% - Office 30% - Retail 30% - Entertainment 20% - Institutional | n/a | 3 stories | 100/8 |
| TOD | Transit Oriented Development | Residential, office, and commercial | 40% Retail 40% Residential 20% Office | 18-35 | 30 du/ac 3 stories | n/a |



Resulting Land Use Scenario

| Land Use | Units |
|------------------------------|---------------|
| High School | 2500 Students |
| Residential | 7,066 DU |
| Office | 2,193,000 SF |
| Retail | 1,950,000 SF |
| University | 4000 Students |
| Industrial | 129,000 SF |
| Hotel | 600 Rooms |
| Church/Religious Preschool | 28,660 SF |
| Dining | 38,000 SF |
| Movie Theatre | 24 Screens |
| Ice Rink (2 NHL Size Sheets) | 65,000 SF |





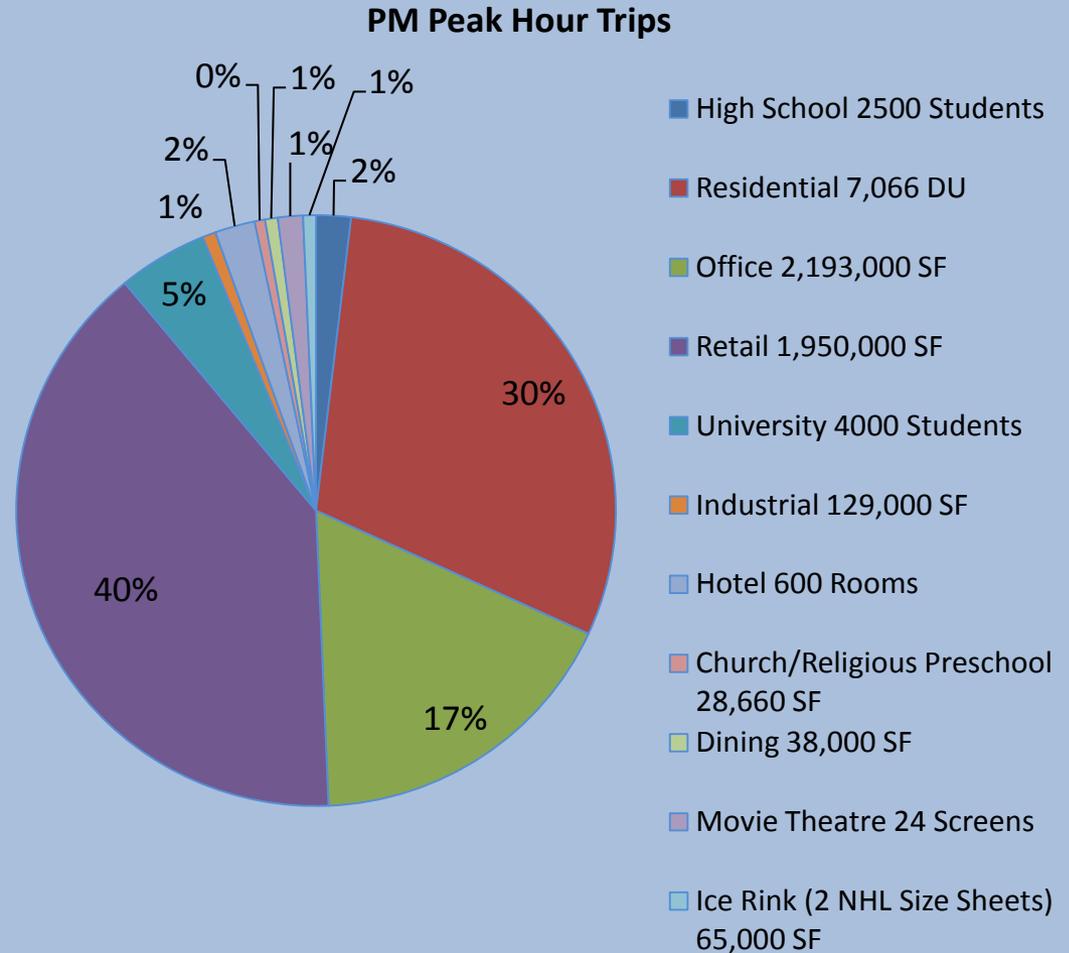
Trip Forecasting

- ITE Trip Generation
- TAZ by TAZ basis
- Internal Capture / Trip Reduction
 - NCHRP Project 8-51: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*
 - Accounts for benefits of mixed use development on automobile traffic reduction
- “Pass-by” reductions also taken



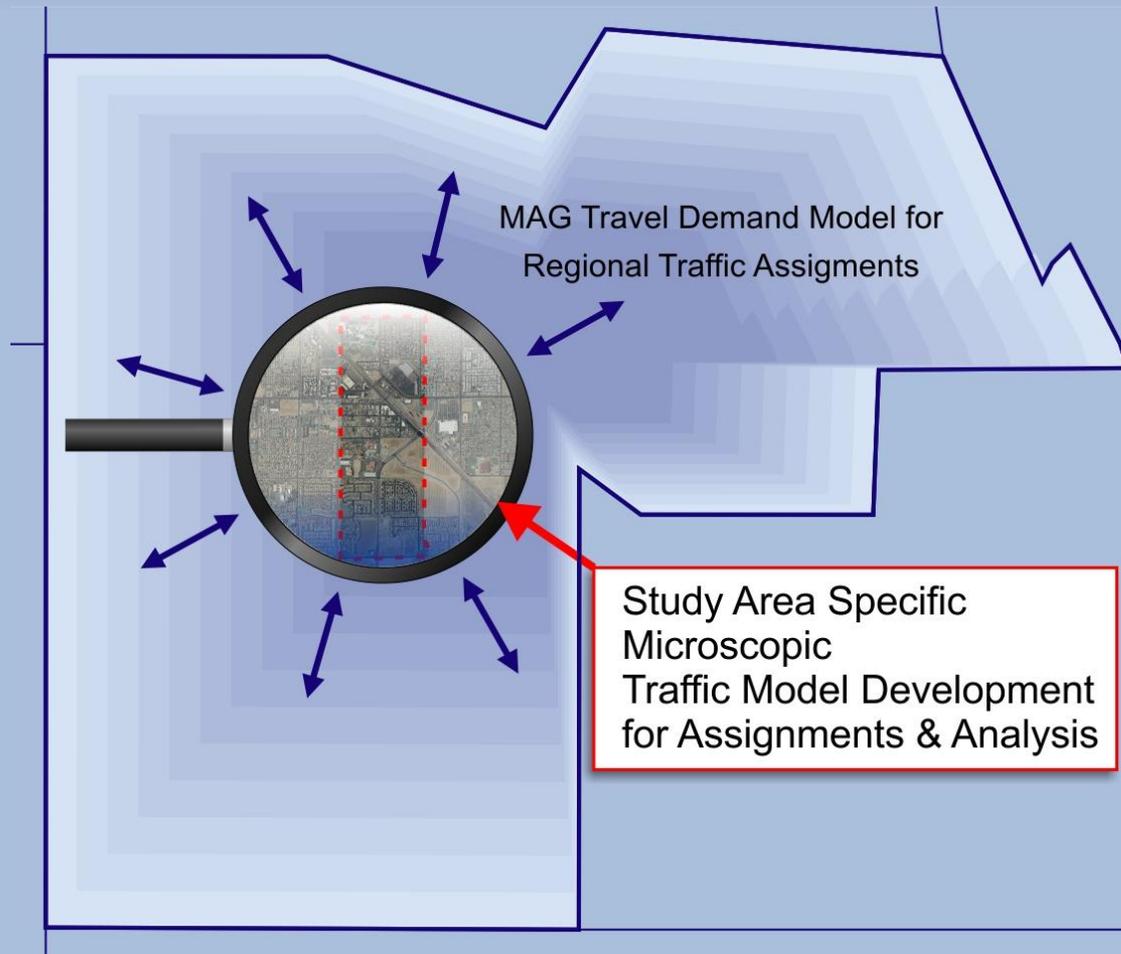
Resulting 2031 Forecasted Trips

| Land Use | AM Trips | PM Trips |
|-------------------------------|----------|----------|
| High School | 1050 | 325 |
| Residential | 4393 | 5200 |
| Office | 3472 | 3034 |
| Retail | 2699 | 6881 |
| University | 840 | 840 |
| Industrial | 119 | 125 |
| Hotel | 393 | 375 |
| Church/Religious Preschool | 95 | 97 |
| Dining | 382 | 119 |
| Movie Theatre | 0 | 234 |
| Ice Rink | 60 | 120 |





Modeling Approach





Growth Summaries

| Peak Period | Trip Table | 2010 | 2031 | Growth in Trips | % Growth |
|-------------|---------------------------|---------|---------|-----------------|----------|
| PM | MAG Subarea Trip Table | 159,197 | 201,600 | 42,402 | 127% |
| | Peoria Subarea Trip Table | 10,702 | 19,047 | 8,346 | 178% |
| AM | MAG Subarea Trip Table | 120,758 | 156,803 | 36,045 | 130% |
| | Peoria Subarea Trip Table | 9,368 | 15,858 | 6,490 | 169% |



Traffic Model

❖ TransModeler
❖ Built from MAG Regional Model (TransCAD)
❖ 2031 Regional Growth
❖ Local growth due to Old Town Revitalization

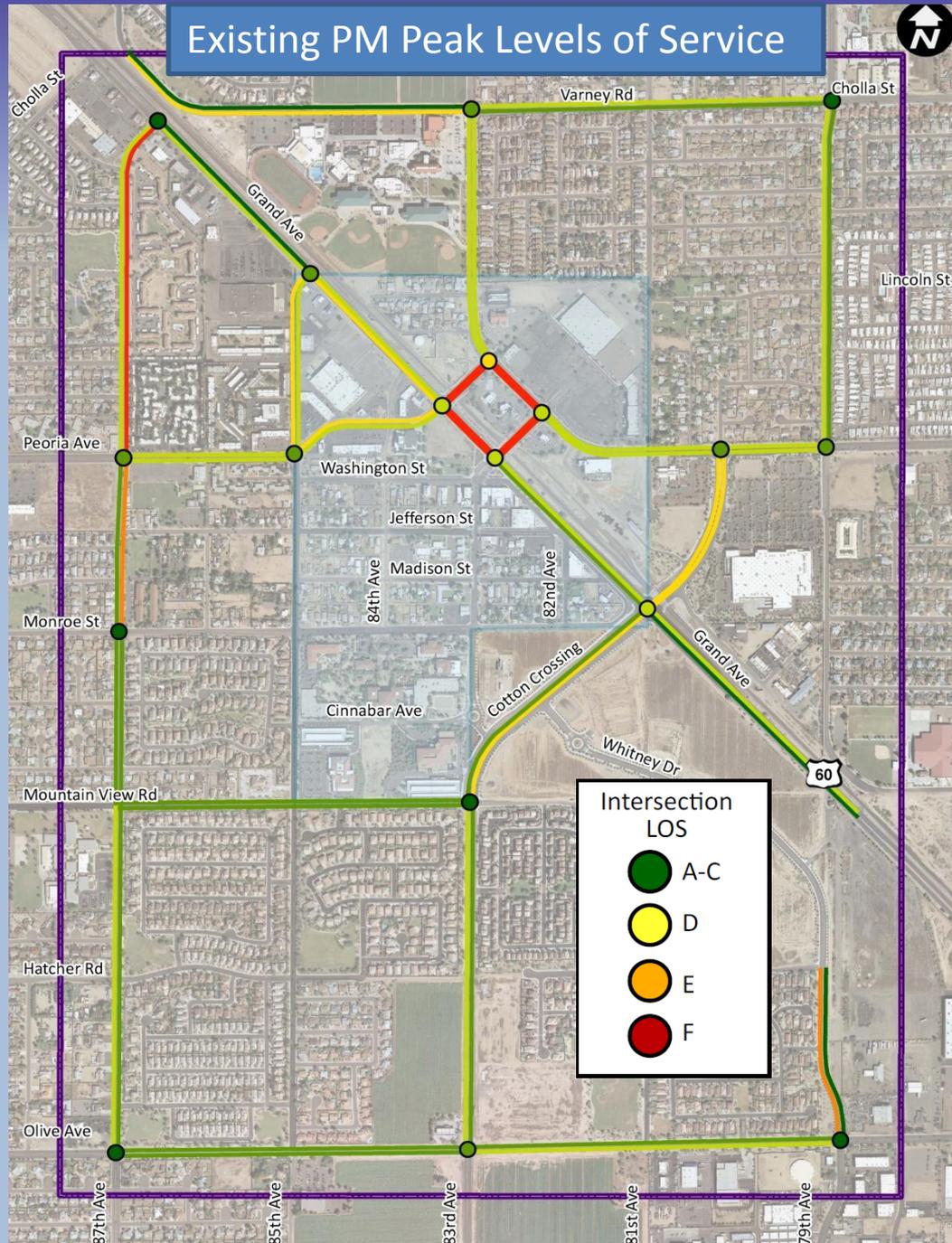
Scenario: Simulation Project P:\...Model\Peoria Inner Loop\Scenario A\Original Scenario A\



Preliminary Findings

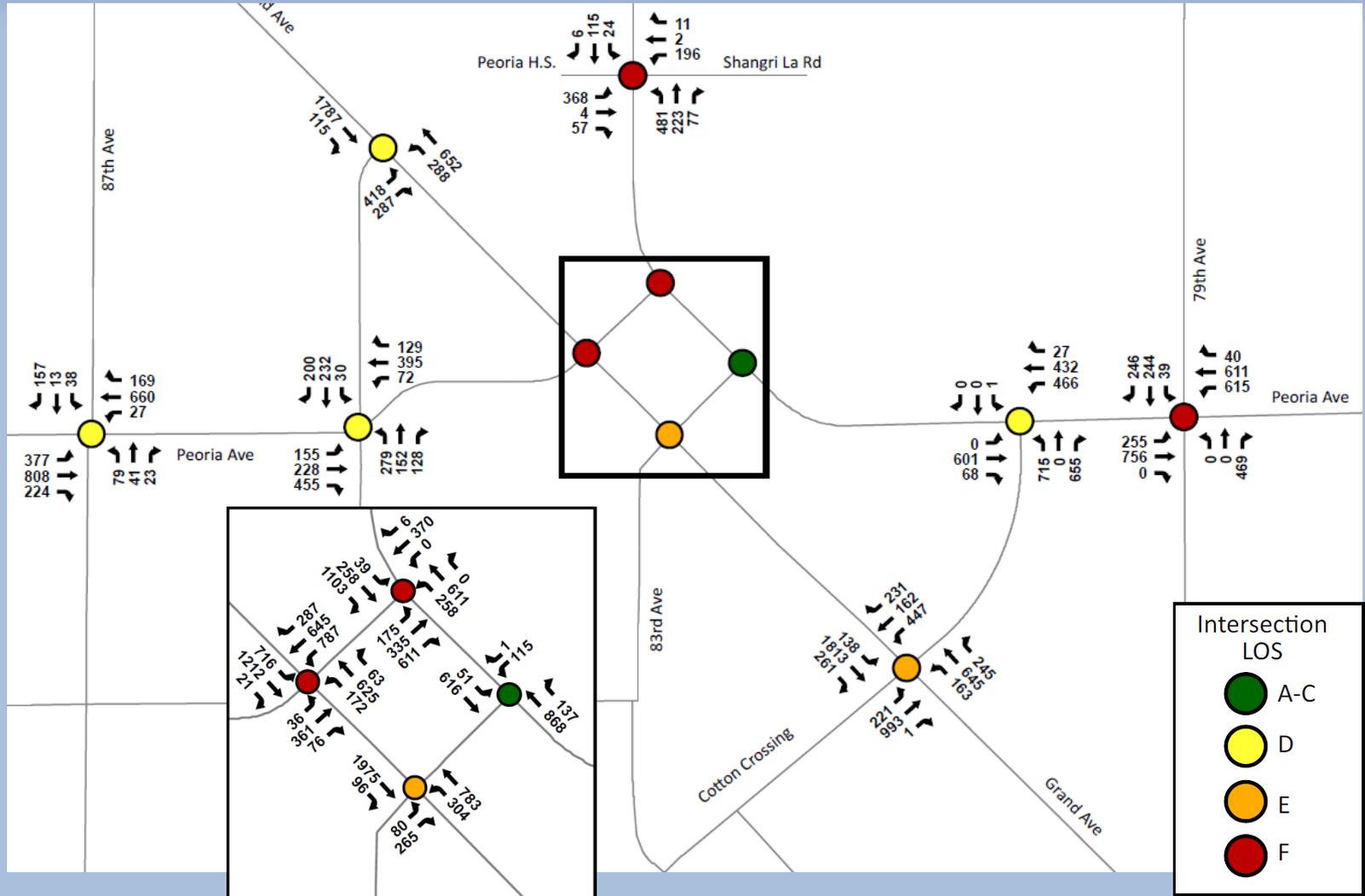
- Existing Conditions

Existing PM Peak Levels of Service





Scenario A – PM Peak Forecasts





Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|---|------------------|--------------------------|-----------|---------------|--------|------------|--------------|----------|
| W Peoria Avenue at NW Grand Avenue (west corner of downtown diamond) | F | 109.1 | NEB | L | 36 | 1 | 0.078 | D |
| | | | | T | 225 | 1 | 0.363 | D |
| | | | | TR | 212 | 1 | 0.363 | D |
| | | | NWB | L | 172 | 1 | 1.099 | F |
| | | | | T | 466 | 2 | 0.568 | E |
| | | | | TR | 222 | 1 | 0.568 | E |
| | | | SWB | L | 787 | 2* | 0.851 | E |
| | | | | T | 645 | 2 | 0.520 | D |
| | | | | R | 287 | 1 | 0.546 | D |
| | | | SEB | L | 716 | 2* | 1.703 | F |
| | | | | T | 825 | 2 | 0.917 | E |
| | | | | TR | 408 | 1 | 0.917 | E |

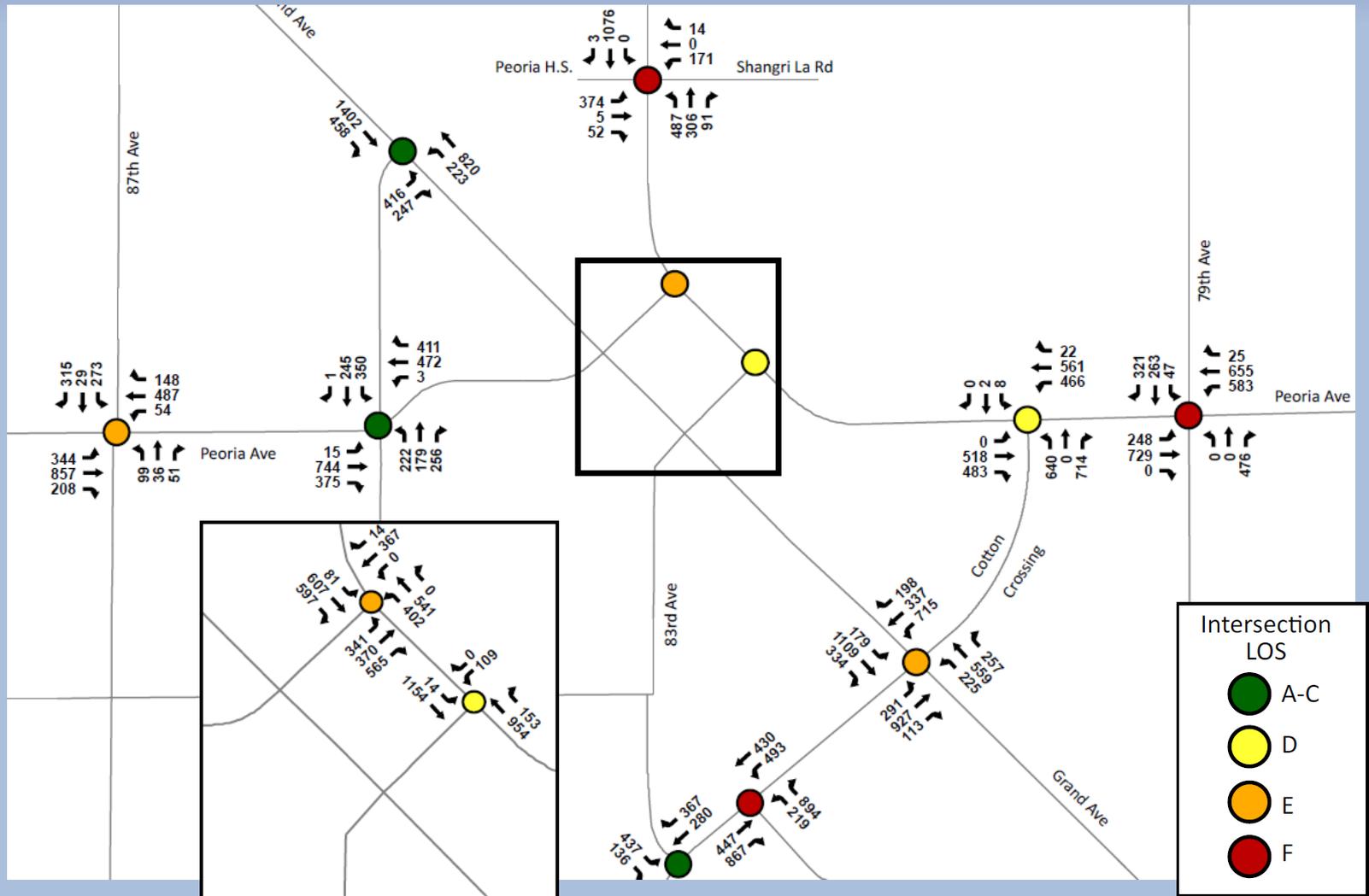


Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|----------------------------------|------------------|--------------------------|-----------|---------------|--------|------------|-------|-----|
| N 79th Avenue at W Peoria Avenue | F | 82.7 | WB | L | 615 | 1 | 1.209 | F |
| | | | | T | 329 | 1 | 0.565 | E |
| | | | | TR | 322 | 1 | 0.565 | E |
| | | | SB | L | 39 | 1 | 0.128 | D |
| | | | | T | 244 | 1 | 0.406 | D |
| | | | | R | 246 | 1 | 0.483 | E |
| | | | EB | L | 255 | 1 | 0.447 | E |
| | | | | T | 378 | 1 | 0.649 | E |
| | | | | TR | 378 | 1 | 0.649 | E |
| | | | NB | L | 0 | 1 | 0.000 | D |
| | | | | T | 0 | 1 | 0.000 | D |
| | | | | R | 469 | 1 | 0.892 | E |



Scenario B – PM Peak Forecasts





Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|--|------------------|--------------------------|-----------|---------------|--------|------------|--------------|----------|
| W Peoria Avenue at NW Grand Avenue (west corner of downtown diamond) | F | 109.1 | NEB | L | 36 | 1 | 0.078 | D |
| | | | | T | 225 | 1 | 0.363 | D |
| | | | | TR | 212 | 1 | 0.363 | D |
| | | | NWB | L | 172 | 1 | 1.099 | F |
| | | | | T | 466 | 2 | 0.568 | E |
| | | | | TR | 222 | 1 | 0.568 | E |
| | | | SWB | L | 787 | 2* | 0.851 | E |
| | | | | T | 645 | 2 | 0.520 | D |
| | | | | R | 287 | 1 | 0.546 | D |
| | | | SEB | L | 716 | 2* | 1.703 | F |
| | | | | T | 825 | 2 | 0.917 | E |
| | | | | TR | 408 | 1 | 0.917 | E |

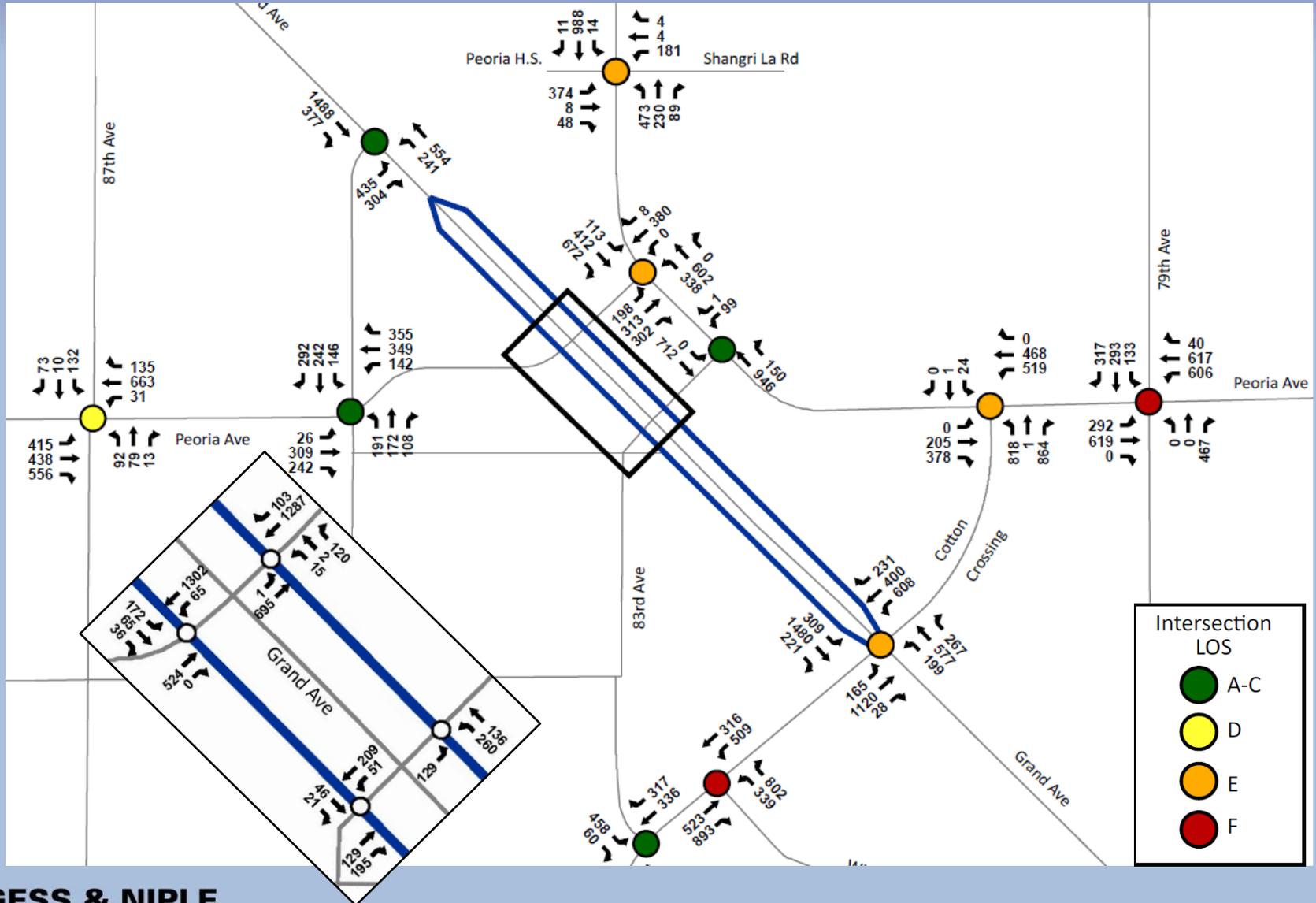


Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|----------------------------------|------------------|--------------------------|-----------|---------------|--------|------------|--------------|----------|
| N 79th Avenue at W Peoria Avenue | F | 102.7 | WB | L | 583 | 1 | 0.733 | E |
| | | | | T | 342 | 1 | 0.712 | E |
| | | | | TR | 338 | 1 | 0.712 | E |
| | | | SB | L | 47 | 1 | 0.272 | E |
| | | | | T | 263 | 1 | 0.818 | E |
| | | | | R | 321 | 1 | 1.178 | F |
| | | | EB | L | 248 | 1 | 0.299 | D |
| | | | | T | 365 | 1 | 0.758 | E |
| | | | | TR | 365 | 1 | 0.758 | E |
| | | | NB | L | 0 | 1 | 0.000 | E |
| | | | | T | 0 | 1 | 0.000 | D |
| | | | | R | 476 | 1 | 1.635 | F |



Scenario C – PM Peak Forecasts





Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|----------------------------------|------------------|--------------------------|-----------|---------------|--------|------------|-------|-----|
| N 79th Avenue at W Peoria Avenue | F | 101.9 | WB | L | 606 | 1 | 0.736 | E |
| | | | | T | 332 | 1 | 0.643 | D |
| | | | | TR | 325 | 1 | 0.643 | D |
| | | | SB | L | 133 | 1 | 0.759 | E |
| | | | | T | 293 | 1 | 0.911 | E |
| | | | | R | 317 | 1 | 1.163 | F |
| | | | EB | L | 292 | 1 | 0.356 | D |
| | | | | T | 310 | 1 | 0.599 | D |
| | | | | TR | 310 | 1 | 0.599 | D |
| | | | NB | L | 0 | 1 | 0.000 | E |
| | | | | T | 0 | 1 | 0.000 | D |
| | | | | R | 467 | 1 | 1.604 | F |



Level of Service (LOS) / Capacity Analysis

| Intersection | Intersection LOS | Intersection Delay (sec) | Direction | Turn Movement | Volume | # of Lanes | V/C | LOS |
|---|------------------|--------------------------|-----------|---------------|--------|------------|-------|-----|
| N 83rd Avenue at Peoria Avenue (north corner of downtown diamond) | E | 72.6 | NEB | L | 198 | 2 | 0.784 | E |
| | | | | T | 313 | 1 | 0.423 | D |
| | | | | R | 302 | 2 | 0.241 | D |
| | | | NWB | L | 338 | 2 | 0.862 | E |
| | | | | T | 301 | 1 | 0.465 | D |
| | | | | TR | 301 | 1 | 0.465 | D |
| | | | SWB | L | 0 | 1 | 0.124 | E |
| | | | | TR | 388 | 1 | 0.641 | D |
| | | | SEB | L | 113 | 1 | 0.577 | E |
| T | 413 | 3 | | 0.212 | D | | | |
| R | 672 | 1 | | 1.225 | F | | | |



Scenario Refinement





Thank you!

