

# US-60/Grand Avenue COMPASS High Capacity Transit Analysis (HCT)



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## 1. BACKGROUND

This analysis supplements the original research conducted by ESI Corp under the US-60/Grand Avenue Corridor Optimization, Access Management, and System Study (COMPASS) project and examines the potential for High Capacity Transit (HCT) of nine possible transit stops identified along Grand Avenue. These include:

- Meeker Blvd.
- Bell Rd.
- Thompson Ranch Rd.
- 103rd Ave.
- 83rd Ave.
- 59th Ave.
- 43rd Ave.
- 27th Ave.
- 19th Ave.

The research approach utilized by ESI Corp follows the Sustainable Transportation and Land Use Integration Study (ST LUIS) prepared by ARUP North America. A two step approach is outlined in their November 7, 2011 memo on Supportive High Capacity Transit Corridor Technical Analysis. For the purposes of this analysis, an abbreviated version of their methodology was utilized, and six elements of the Step 1 criteria were assessed. Additionally, the ST LUIS analysis was centered on evaluating multiple, different corridors and their HCT readiness, while the COMPASS HCT Analysis focuses on transit stops along one corridor – Grand Avenue.

### *EVALUATION FRAMEWORK*

The Step 1 analysis within the ST LUIS evaluation process is a high level screening of eight weighted criteria to identify transit stops' characteristics that have the potential to support HCT. The transit stops that meet a minimum criteria advanced to the next level of analysis called Step 2. The analysis undertaken by ESI on the nine transit stops was modified and only includes Step 1, with an evaluation of six of the eight criteria, including:

- Total Population
- Percent of Minority Population
- Percent Low Income Households (under \$20,000/Year)
- Total Employment
- Transit-Supportive Density (Jobs + Residents/ Gross Acre)
- Transit-Supportive Job Density (Jobs/ Gross Acre)

Each of the six criteria is scored from 1 to 5, noted in Table 1, with transit dependent/supported population/conditions weighted more heavily. A composite score of 50 is the maximum number of points that could apply per stop. The ST LUIS analysis defined transit supportive jobs as those that fall within government, entertainment and knowledge based sectors.

| <b>Table 1 - Weighting by Criteria</b> |   |                           |  |
|--|---|---------------------------|--|
| <b>Code</b>                            | <b>Criteria</b>   | <b>Proposed Weighting</b> | <b>Max Points per Criteria (with 1-5 rating scale)</b> |
| S1-1                                   | Total Population  | 1                         | 5  |
| S1-2                                   | % of Minority Population                                  | 2                         | 10   |
| S1-3                                   | % Low Income Households (under \$20,000/Year)             | 2                         | 10   |
| S1-4                                   | Total Employment  | 1                         | 5  |
| S1-5                                   | Transit-Supportive Density (Jobs + Residents/ Gross Acre) | 2                         | 10   |
| S1-6                                   | Transit-Supportive Job Density (Jobs/ Gross Acre)         | 2                         | 10   |
| <b>Total Points:</b>                   |   |                           | <b>50</b>  |

Source: ST LUIS Study

The resultant score for each criteria is categorized within one of five quintiles based on performance, as noted in Table 2. Transit stops scoring in the top 20 percent are assigned 5 points, with transit stops scoring in the next 20 percent receiving 4 points, and so on.

| <b>Table 2 - Transit Stop Scoring Range by Quintile</b> |   |  |  |   |  |   |
|---|---|--|--|---|--|---|
|   | <b># of Points</b>  | <b>1</b>                                       | <b>2</b>   | <b>3</b>  | <b>4</b>   | <b>5</b>                                    |
| <b>Code</b>   | <b>Criteria</b>   | <b>Bottom Quintile (under 20th percentile)</b> | <b>Second Quintile (between 20th to 40th percentile)</b> | <b>Third Quintile (between 40th to 60th percentile)</b> | <b>Fourth Quintile (between 60th to 80th percentile)</b> | <b>Top Quintile (above 80th percentile)</b> |
| S1-1  | Total Population  | < 24,025                                       | 22,4025-34,966   | 34,967-50,512   | 50,152-85,840  | 85,840+                                     |
| S1-2  | % of Minority Population                                  | < 26%  | 26%- 36.9%   | 37%- 53.9%  | 54%- 63.9%   | 64% +                                       |
| S1-3  | % Low Income Households (under \$20,000/Year)             | < 12.5%  | 11.5%-16.9%  | 17%- 19.4%  | 19.5%-25.4%  | 15.5% +                                     |
| S1-4  | Total Employment  | < 12,830                                       | 12,830-23,499  | 23,500-37,899   | 37,900-56,000  | 50,798+                                     |
| S1-5  | Transit-Supportive Density (Jobs + Residents/ Gross Acre) | < 4  | 4.0- 11.9  | 12.0- 17.9  | 18-26.9  | 27 +  |
| S1-6  | Transit-Supportive Job Density (Jobs/ Gross Acre)         | < 0.85   | 0.85-1.08  | 1.09-1.91   | 1.9-2.70   | 2.70+                                       |

Source: ST LUIS Study

**2. HCT ANALYSIS FINDINGS**

Each transit stop encompasses a 1/2 mile buffer of the transit stop. Data utilized by ESI Corp in the analysis includes MAG's 8M socio economic dataset at the TAZ level, and supplemented with U.S. Census data. If a TAZ boundary is partially within the 1/2 mile buffer, then all of the data for that TAZ is included. Transit jobs and transit job density is derived utilizing U.S. Census data at the two-digit NAICS level and applying a percentage of transit jobs to TAZ population.

Table 3 provides a side-by-side comparison of the results for each HCT stops. Thompson Ranch has the highest percentage of low-income households and the largest ratio of transit supported density, while 27th Avenue has the highest number of jobs, the greatest minority population and numerically ties for households without vehicles. The 103rd Avenue corridor, which includes a portion of Sun City, also has the largest number of households without a vehicle and the highest household density.

For information purposes two screening criteria from Step 2 (Household density and Households without a car) was analyzed and is included in the following table for information purposes only. It is not included in the Step 1 scoring tabulation.

**Table 3 - HCT Stops, Step 1 Results**

|   | Meeker | Bell   | Thompson Ranch | 103Ave     | 83rd Ave      | 59th Ave | 43rd Ave | 27th Ave      | 19th Ave |
|---|--------|--------|----------------|------------|---------------|----------|----------|---------------|----------|
| Population                                    | 19,681 | 22,190 | 23,549         | 7,487      | <b>38,926</b> | 26,525   | 24,496   | 14,658        | 11,884   |
| Employment                                    | 13,616 | 12,475 | 7,817          | 5,296      | 14,279        | 17,687   | 14,600   | <b>28,320</b> | 11,269   |
| Minority Population                           | 6.7%   | 22.0%  | 58.2%          | 5.9%       | 41.7%         | 48.7%    | 52.3%    | <b>64.3%</b>  | 27.7%    |
| Low Income Households                         | 24%    | 30%    | <b>51%</b>     | 33%        | 15%           | 41%      | 30%      | 38%           | 40%      |
| Transit Supported Density (jobs+pop/acres)    | 6.3    | 7.6    | <b>14.3</b>    | 4.0        | 12.1          | 12.2     | 11.0     | 8.2           | 8.9      |
| Transit Supported Job Density (jobs/acres)    | 1.0    | 1.3    | 1.1            | 0.5        | 0.9           | 1.8      | 1.4      | <b>2.8</b>    | 2.1      |
| Household Density (housing units/gross acres) | 2.1    | 1.8    | 1.2            | <b>3.2</b> | 2.4           | 1.2      | 2.2      | 1.0           | 1.3      |
| Households without a Vehicle                  | 6%     | 9%     | 4%             | <b>20%</b> | 5%            | 15%      | 10%      | <b>20%</b>    | 15%      |

Source: MAG, U.S. Census Block

Notes: Some corridors may overlap geographically with others. Households in these overlapping areas are included in the totals for each corridor; Transit -supportive jobs are defined as jobs in the government, entertainment and knowledge based sectors

**FINDINGS**

As it relates to the ST LUIS HCT Corridor Analysis, transit stops that met or exceeded a 60 percent threshold were carried forward to Step 2 for further screening. Pertaining to the US-60/Grand Avenue COMPASS Study, there are four out of nine potential station stops that meet or exceed this 60 percent threshold including Thompson Ranch Road, 59th, 43rd, and 27th Avenues. Falling just below the

threshold of 30 points is 83rd Avenue with a score of 29. The detailed table on the corridor score by criteria is included as Appendix A.

| <b>Table 4 - HCT Stops, Composite Score</b> |                              |                              |
|---|------------------------------|------------------------------|
| <b>Corridor</b>                             | <b>Score<br/>(out of 50)</b> | <b>Advance to<br/>Step 2</b> |
| Meeker Blvd.                                | 24                           |                              |
| Bell Rd.                                    | 24                           |                              |
| Thompson Ranch Rd.                          | 32                           | ✓                            |
| 103rd Ave.                                  | 26                           |                              |
| 83rd Ave.                                   | 29                           |                              |
| 59th Ave.                                   | 32                           | ✓                            |
| 43rd Ave.                                   | 32                           | ✓                            |
| 27th Ave.                                   | 32                           | ✓                            |
| 19th Ave.                                   | 26                           |                              |

All of the proposed HCT stops would be classified by ST LUIS as suburban in nature, meaning they have less than 15 persons per acre. Based solely on existing land uses and density, the ST LUIS place type characteristics defined high capacity oriented density at 45+ persons per acre. The dominant land use for high capacity transit is mixed use, employment/office and regional uses, such as universities, healthcare, etc.

Presently none of the HCT stops in this analysis display the high capacity density, yet some of these stops have a concentration of employment and regional uses that include healthcare, retail and professional services.

**TRAVEL DEMAND GENERATORS**

The Northwest Valley Sub-Region of Maricopa County recently underwent a transit study to determine the desires of residents relative to transportation needs and to quantify the increase in transportation demand that has resulted from population growth. In order for HCT to be successful research has demonstrated that a critical mass of people and jobs must be present around the stations to support the system. The distance of origins and destinations from transit stations has a strong influence on whether people use transit to get to and from their destinations. Community surveys were conducted in the Northwest Valley to understand the reasons for a typical travel purpose. The most typical trip purpose for study area respondents was Shopping at 26 percent. Recreation/social (18 percent), Healthcare (18 percent), Personal business (17 percent), and Work (15 percent). The majority of the trips made were between cities (as opposed to within their own community).

Enhancing the effectiveness of HCT is possible by having a transit feeder system in place. Major trip generators identified within the Northwest Valley are along Grand Avenue and include Banner Del E. Webb Medical Center, Surprise Town Center, Banner Boswell Medical Center and Peoria High School. Aspects of successful transit include the connection of hubs that facilitate transfers to other hubs or commercial centers that connect people to shopping, work, healthcare and other needs; providing service to denser corridors of housing and concentrated retail and employment destinations, and servicing lower income populations and those without vehicles.<sup>1</sup> One of the long term recommendations of the Northwest Valley Local Transit System Study is supporting the eventual implementation of high-capacity transit service from Surprise to Downtown Phoenix.

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<sup>1</sup>Northwest Valley Local Transit System Study, MAG, June 2013.

### 3. TRANSIT, LAND USE AND ECONOMIC DEVELOPMENT

According to the Urban Land Institute there are several fundamental economic and demographic forces that will shape urban development over the existing decade. Among them includes lifestyle choices among the Millennial Generation, extended employment among Boomers, potential demand for senior housing, rising transportation costs, and public sector shortfalls on repairing, rebuilding and repurposing existing transportation infrastructure. Business site location decisions also play a role in influencing land use and real estate investment. The desire of businesses to geographically cluster with similar and complementary businesses and be proximal to customers and/or a workforce gives rise to employment centers.

Looking ahead, several key questions regarding the relationship between HCT, land use and economic development emerge, such as, what are the demographic trends that are fostering the desire for transit related development, how does transportation infrastructure effect market value, how will planners integrate multimodal infrastructure initiatives into future land use design, and how will projects be implemented. Underlying this is the overriding goal to foster development and redevelopment that will produce corresponding land use outcomes such as mixed use development, higher density residential, and employment centers. Done correctly these newly created HCT centers can connect to regional networks and link downtown cores, airports and other mass transportation systems.

#### Did you know.....

- *People who live near transit are likely to use transit. (Reconnecting America and CTOD)*
- *Transit share of the commute trip is highly correlated with population and employment density. (Reconnecting America and CTOD)*
- *Of all transit related trips, work related ones comprise the majority. (Reconnecting America and CTOD)*
- *Some jobs are more transit oriented than others and those jobs are projected to grow.(CTOD)*
- *Housing values within proximity to fixed-guideway transit have maintained their value compared to residential properties without transit access. (American Public Transportation Association)*
- *Consumers are willing to pay more for housing located in areas that are walkable, have higher density, a mix of uses, as well as access to jobs and amenities such as transit. (American Public Transportation Association)*

### DEMOGRAPHIC SHIFTS AND CHANGING CONSUMER DEMAND

The Great Recession took a toll on wealth generation in this country leaving many workers with diminished home values and retirement savings. The number of rental households increased by 1.1 million since 2011; the largest annual increase since the early 1980's. The 25-35 year old age cohort, in large part, fueled the rental market from 2006 to 2011.<sup>2</sup> Boomers, the other large demographic group, have been embracing pedestrian friendly places as they move into the 65+ age bracket. Seniors use of public transit increased 328 million more trips from 2001 to 2009 (Transportation for America). For those on a constrained budget access to mass transit is vital for getting around. *Transportation for American* reports that the miles driven per American has been dropping and that the millennial generation (16-34) is driving nearly one-fourth less now than those who where the same age a decade ago. Americans desire to be closer to shopping districts and mass transit lines to get to work.

### TRANSIT AS AN AMENITY

Creating mixed use corridors that connect nodes of activity and are anchored by residential and employment has proven to be successful in many major markets across the U.S. Projects near transit are viewed as having the potential to achieve faster absorption rates, higher occupancy rates, and in some cases higher sales prices or rents. Neighborhoods that connect most directly and easily to urban nodes and downtown centers will gain advantages over less convenient exurban locations.

Over the years numerous studies have been conducted evaluating the relationship that transit has on property values. The findings overwhelming indicate that properties that were located near a transit station experience an increase in value compared to properties that did not have transit access. Conditions which optimize transit's influence on property values is the system's regional connectivity and frequency of service. According to the Center for Transit Oriented Development, "transit systems that do a good job in linking workers to employment centers have better potential to generate higher land values."

Several factors have been identified which are necessary to facilitate enhanced real estate values, including:<sup>3</sup>

1. Good economy and a healthy real estate market that transit development can take advantage of.
2. Supportive public policy that leverage transit added value by allowing density bonuses, reduced parking requirements, and incentives.
3. Existence of traffic congestion that serves as an inducement for residents and the workforce population to abandon their car and find alternative modes of transportation.

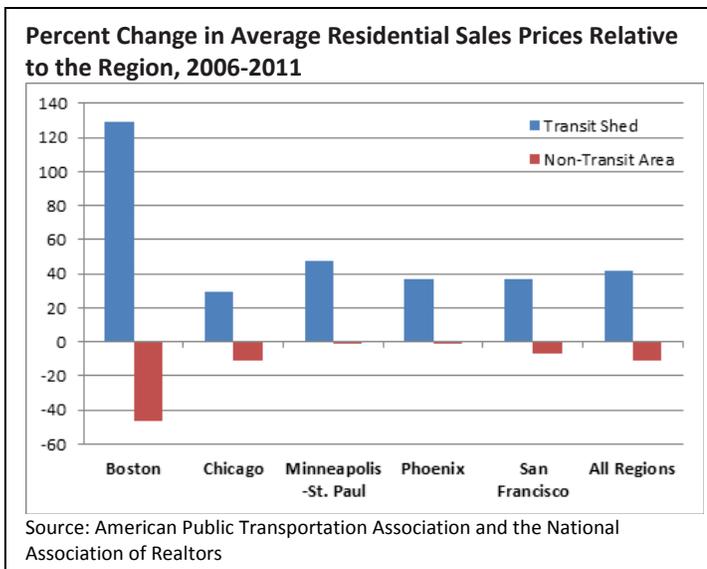
In a recent study conducted by the American Public Transportation Association with the National Association of Realtors, they analyzed transit sheds in five regions of the country and concluded that

<sup>2</sup> "The State of the Nation's Housing 2012." The Joint Center for Housing Studies of Harvard University.

<sup>3</sup>Professor Robert Cervero, U.C. Berkeley.

transit sheds outperformed the region as a whole by 41.6 percent. Boston station areas outperformed the region the most at 129 percent with Phoenix at 37 percent. Additional findings include:<sup>4</sup>

- Transit type had an effect on the resilience of property values, which benefited more from transit that was well connected and had a higher frequency of service. Stations with higher levels of transit access saw the most price resilience within and across regions.
- No consistent trends have emerged with regards to residential property type. For most property types, the transit shed outperformed the region, and in Boston and Chicago this holds true for all property types.



- In addition to more resilient residential property values, households living in transit sheds had better access to jobs and lower average transportation costs than the region as a whole.

### LAND USE DESIGN THAT EMBRACES HCT

It is particularly important that land use and development professionals work together to ensure that community plans for HCT have a pedestrian scale, are realistic and reflect sound development principles. Plans may need to be phased, and over time modified to reflect changes in market conditions, land ownership, community goals, economic prospects or consumer preferences. Successful transit developments leverage real estate opportunities as a priority, as opposed to fostering low-cost transit solutions which could decrease rider accessibility and diminish opportunities for higher density that fosters economic growth around stations.

A fundamental building block for attracting residents to transit is ensuring walkability of the area and pedestrian connectivity. Too much parking has been pointed out as an inhibitor by making the area less pedestrian friendly and wasting space that could be used for mixed use development that fosters ridership. Standard parking ratios need to be evaluated relative to the layout of the station and its connectivity to the surrounding community. The Center for Transit Oriented Development has shown that homeowners in walkable communities with a mix of uses and good transit access own 43 percent fewer cars than those who live in suburban communities.

<sup>4</sup> "The New Real Estate Mantra, Location Near Public Transportation," March 2013.

In addition, bicycling is experiencing unprecedented growth in U.S. cities as mayors and transportation planners appreciate the multiple benefits and low-cost of investing in bicycling. The number of people riding bikes frequently has grown 40 percent nationwide and 63 percent in the nation's largest cities in the past decade.<sup>5</sup> Bicycling is a cost effective and zero-carbon solution to fill the gap of door-to-door service, referred to as the "first and last mile." By incorporating within transit stations and mixed use centers full service bike racks and lockers, the major concerns of theft and accessibility can be addressed.

Transit ridership comes from every economic spectrum, consequently housing should reflect a variety of price points to capture a mix of incomes and a variety of age groups. Adding and maintaining affordable housing to accommodate a range of income groups can assure that middle skill workers and seniors are not pushed out of the market.

Requiring that retail be a component of every project is a pitfall that should be avoided. Transit access can bolster the retail market, but the market must be viable without the transit component. Retail does not drive development around transit, it follows rooftops. Having an existing market for retail is fundamental to the success of retail development. Adding residential and office space to the mix can then bolster retail demand. The bottom line for any HCT system to be cost effective, is high concentrations of people and jobs within proximity to the station in order to generate passenger volumes.

### *TRANSLATING PLANS INTO ACTION*

Creating transit oriented neighborhoods that can generate high ridership requires effective partnerships between public and private sector players. The expertise and resources of the private development community combined with the skills and assets of local government can be particularly effective in delivering a development project that meets the public goals. There are many national examples of collaboration which show how transit related projects are planned and developed. The role of the public sector has included a mix of tactics, including some of the following:

- Identify catalyst projects on publically owned land and create public/private partnerships to advance the endeavor.
- Facilitate land assembly to create large enough sites for transit related projects, and help rezone the parcel(s) if necessary.
- Obtain grants from the Federal Government to fund environmental remediation.
- Help with entitlement risk by reaching out to the community to gain consensus on a station area plan and provide coordination between stakeholders.
- Provide basic market analysis for projects near stations, including demographics, land ownership, etc.

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<sup>5</sup> Bikes Belong

- Help with or make infrastructure investments, such as parks, sidewalk improvements, and transit stop enhancements to increase the curb appeal.
- Market the finished development.

Given limited financial and staff resources, local governments and transit planners need to be strategic when targeting and investing in station areas and corridors by providing policy and investment direction. Oregon Metro created a strategic plan which prioritizes the relative market strength and potential of the region's station areas and frequent bus corridors. They used a formula that measured the relative market strength which identified the likelihood of the station both supporting a transit lifestyle as well as catalyzing private investment in the short term. Understanding and defining the nature of projects that are appropriate for different types of stations allows private investment to respond to the characteristics of the site and identify its optimal uses.

### *LEVERAGING HCT TO FOSTER ECONOMIC DEVELOPMENT*

Within the Grand Avenue corridor are existing employment clusters that range from anchor institutions, such as healthcare and education to construction and industrial uses. Site location factors vary by industry but often include access and proximity to customers, workforce and transportation. Clusters drive economic vitality, generating jobs and wages for residents and expanding purchases of products and services from local suppliers, all resulting in a positive ripple effect to create benefits for every community within a region.

Like many regions of the country, a focus on key industry clusters has been the approach of local economic development professionals. Throughout the U.S., employers in major markets have successfully leveraged their location within proximity to HCT to take advantage of the commute shed of a broader labor pool and attract skilled workers. Within the Phoenix metropolitan area the highest concentration of workers per acre is downtown Phoenix with more than 30 workers per acre. Overall, within the Grand Avenue corridor workers per acre range from 2 to 11. This variance is dependent upon whether the primary industry is office and government employment, which has higher employment densities; or industry employment, which has lower densities. While the Grand Avenue corridor does not have existing job densities that have been determined as the most desirable for HCT, Grand Avenue is anticipated to experience a 41 percent increase in population and a 52 percent increase in employment growth by 2030.

Research and case studies conducted by CTOD have concluded that walkability and transit orientation can be a catalyst for economic development and job creation. Data has shown that locations near transit have become increasingly attractive to employers. However, this does not apply to all sectors, since some jobs are more transit oriented than others. For example, manufacturing and warehousing don't employ the concentrations of people that would promote high ridership. On the other hand, office, colleges and universities, healthcare and hotels are very well suited for locations near transit.

*STUDY CONCLUSIONS AND RECOMMENDATIONS*

The ST LUIS evaluation framework utilized on the nine transit stops concludes that out of nine station stops, four meet or exceed the 60 percent threshold in scoring, due primarily to the high percentage of low income and minority population, transit supported density, and households without a vehicle. These station stops include Thompson Ranch Road, 59th, 43rd, and 27th Avenues, and are suburban in nature with less than 15 persons per acre; which is considerably shy of high capacity oriented density of 45+ persons per acre.

Based on the methodology utilized in this analysis, the US-60/Grand Avenue corridor currently does not meet the minimum criteria to support HCT. High concentrations of people and employment within proximity to the station are needed to generate passenger volumes and maximize the benefit of public investment in HCT.

Laying the groundwork today by linking transportation planning with land use could change the economic dynamics along the Grand Avenue corridor and boost investment and job creation for the future. Strategies to consider include:

- **Land use design** - Ensure walkability and pedestrian connectivity to foster place making and attract residents. The goal is to build a "place," not just a "project." The ideal mix of land uses includes residential (with a variety of price points), employment, retail and entertainment.
- **Supportive public policy** - Leverage transit by allowing density bonuses and reduced parking requirements to promote walkability and entice private development.
- **Transit feeder system** - Create transit hubs that facilitate transfers to commercial centers connecting people to work, shopping and services. Serve as origin and destination for commuters connecting to the regional network and include a mix of transit options such as regional rail and bus, BRT and local bus.
- **Public-private partnerships** - Form partnerships and establish mutual expectations to ensure a successful outcome. Utilize the expertise of the public sector to resolve land assemblage issues, ease the entitlement process, and provide infrastructure and/or land. Take advantage of the private developer's understanding of the real estate market and their ability to attract capital and end users.

**APPENDIX A – TRANSIT STOP SCORE BY CRITERIA**

| <b>HCT Stops, Score by Criteria</b> |                     |                  |   |                  |  |              |
|-------------------------------------|---------------------|------------------|---|------------------|--|--------------|
| <b>Corridor</b>                     | <b>Population</b>   |                  | <b>Employment</b>                                   |                  | <b>% Minority Pop</b>                                |              |
|                                     | <b>Score</b>        | <b>Total Pop</b> | <b>Score</b>  | <b>Total Emp</b> | <b>Score</b>   | <b>%</b>     |
| Meeker Blvd                         | 1                   | 19,681           | 1   | 10,167           | 2  | 7            |
| Bell Rd.                            | 1                   | 22,190           | 1   | 12,475           | 2  | 22           |
| Thompson Ranch Rd.                  | 1                   | 23,549           | 1   | 7,817            | 8  | 58           |
| 103rd Ave.                          | 1                   | 7,487            | 1   | 5,296            | 2  | 6            |
| 83rd Ave.                           | 3                   | 38,926           | 2   | 14,279           | 6  | 42           |
| 59th Ave.                           | 2                   | 26,525           | 2   | 17,687           | 6  | 49           |
| 43rd Ave.                           | 2                   | 24,496           | 2   | 14,600           | 6  | 52           |
| 27th Ave.                           | 2                   | 24,496           | 2   | 14,600           | 10   | 64           |
| 19th Ave.                           | 1                   | 11,884           | 1   | 11,269           | 4  | 28           |
| <b>Corridor</b>                     | <b>% Low Income</b> |                  | <b>Transit Supp. Density<br/>(Pop + Jobs/Acres)</b> |                  | <b>Transit Supp. Job<br/>Density<br/>(Jobs/Acre)</b> |              |
|                                     | <b>Score</b>        | <b>%</b>         | <b>Score</b>  | <b>Count</b>     | <b>Score</b>   | <b>Count</b> |
| Meeker Blvd                         | 8                   | 24               | 4   | 6.3              | 8  | 2.1          |
| Bell Rd.                            | 10                  | 30               | 4   | 7.6              | 6  | 1.8          |
| Thompson Ranch Rd.                  | 10                  | 51               | 6   | 14.3             | 6  | 1.2          |
| 103rd Ave.                          | 10                  | 33               | 2   | 4.0              | 10   | 3.2          |
| 83rd Ave.                           | 4                   | 15               | 6   | 12.1             | 8  | 2.4          |
| 59th Ave.                           | 10                  | 41               | 6   | 12.2             | 6  | 1.2          |
| 43rd Ave.                           | 10                  | 30               | 4   | 11.0             | 8  | 2.2          |
| 27th Ave.                           | 10                  | 30               | 4   | 8.2              | 4  | 1.0          |
| 19th Ave.                           | 10                  | 40               | 4   | 8.9              | 6  | 1.3          |

Source: MAG, U.S. Census 2010 Block Group Data

Notes: Some corridors may overlap geographically with others. Households in these overlapping areas are included in the totals for each corridor; transit -supportive jobs are defined as jobs in the government, entertainment and knowledge based sectors.

**APPENDIX B – TRANSIT STOP BOUNDARY MAPS**

**Legend**



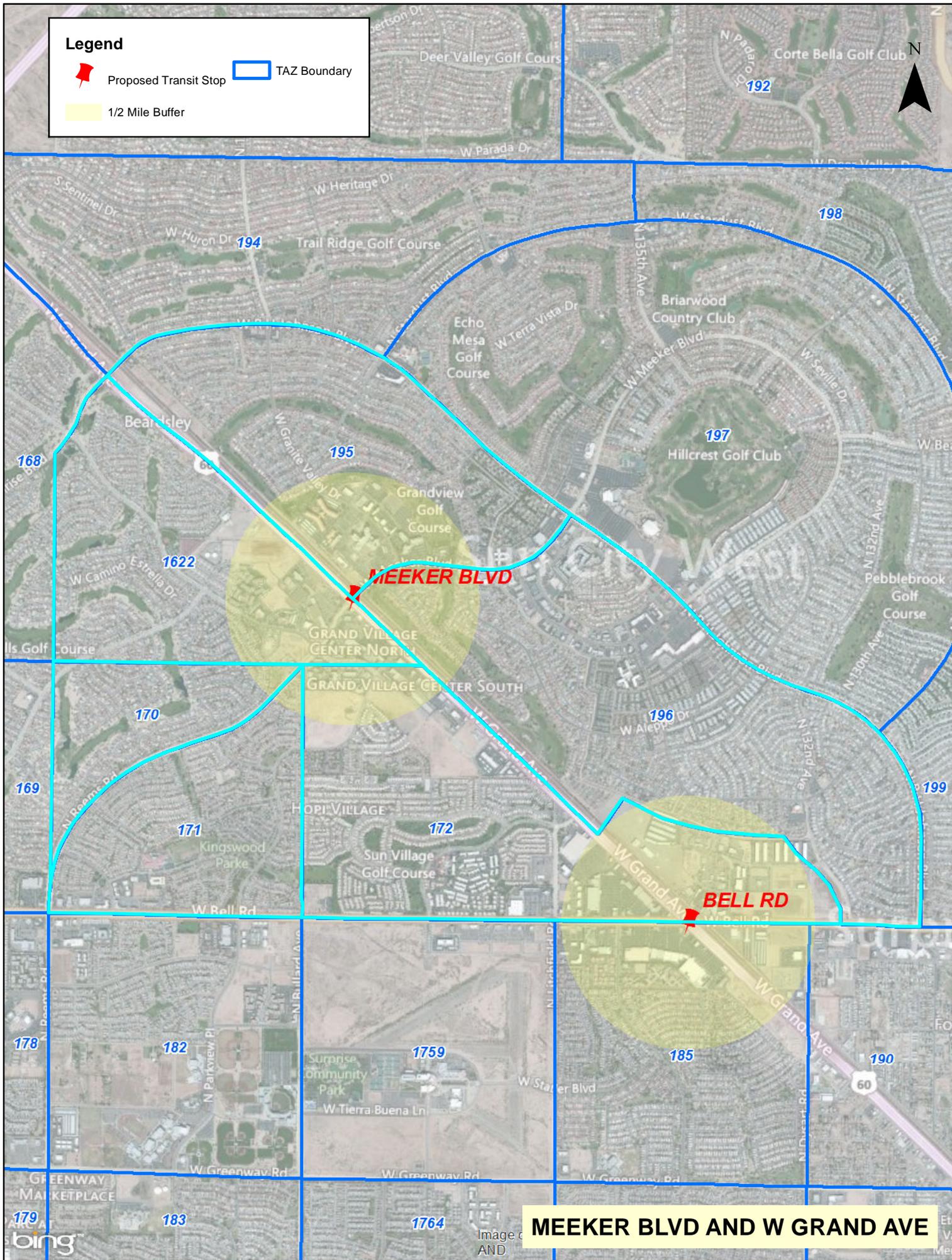
Proposed Transit Stop



TAZ Boundary



1/2 Mile Buffer



**MEEKER BLVD AND W GRAND AVE**

**Legend**

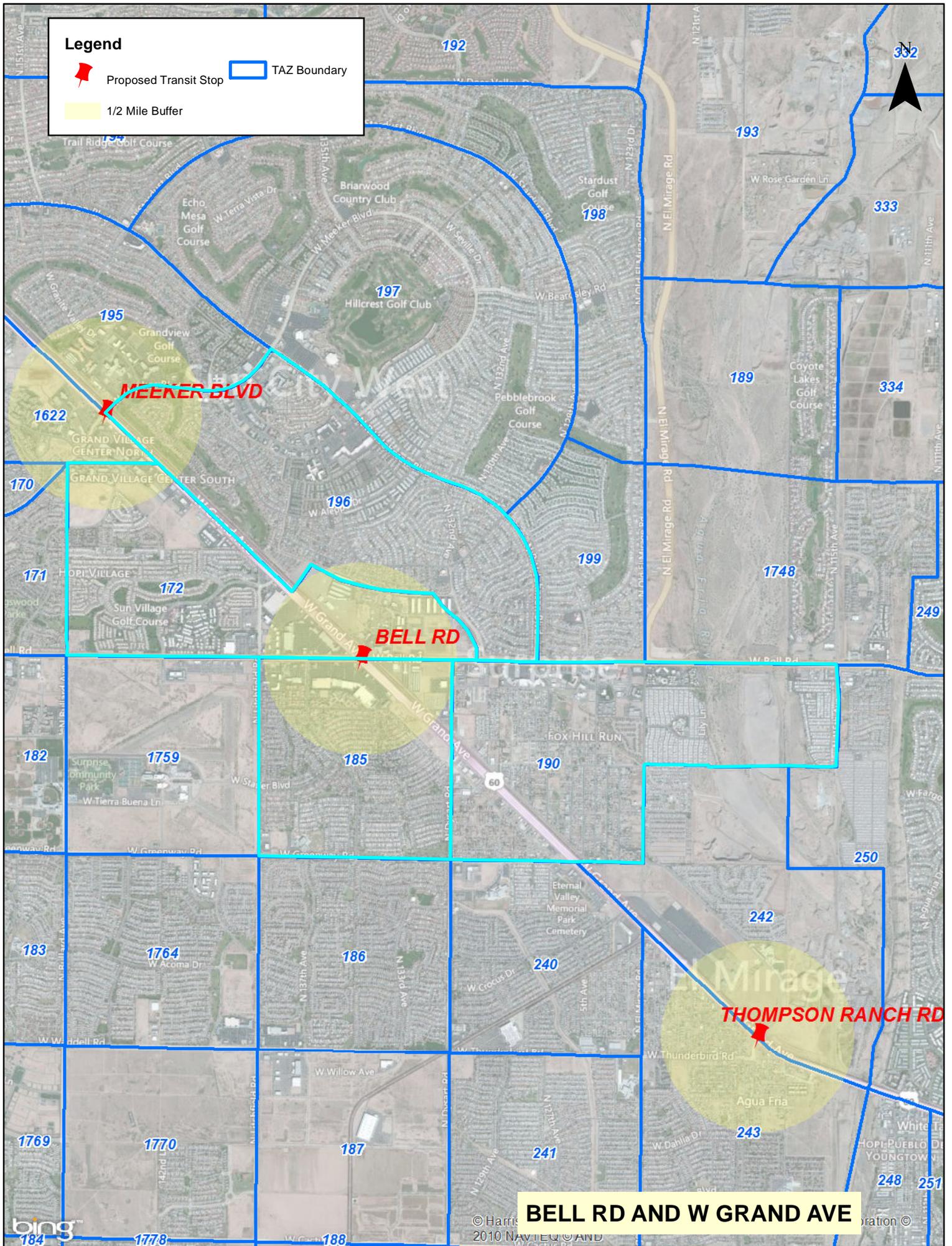


Proposed Transit Stop



TAZ Boundary

1/2 Mile Buffer



**BELL RD AND W GRAND AVE**

**Legend**

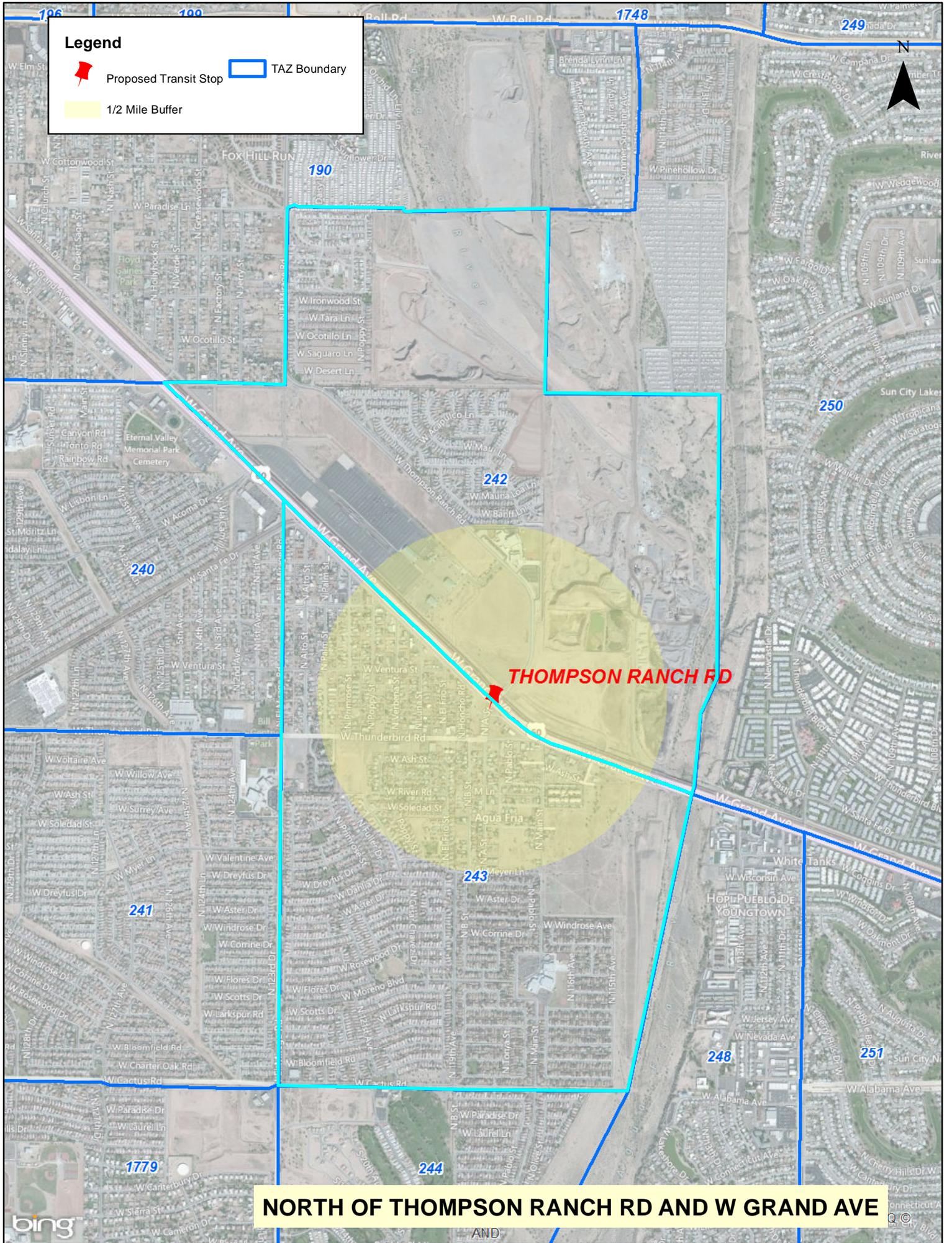


Proposed Transit Stop



TAZ Boundary

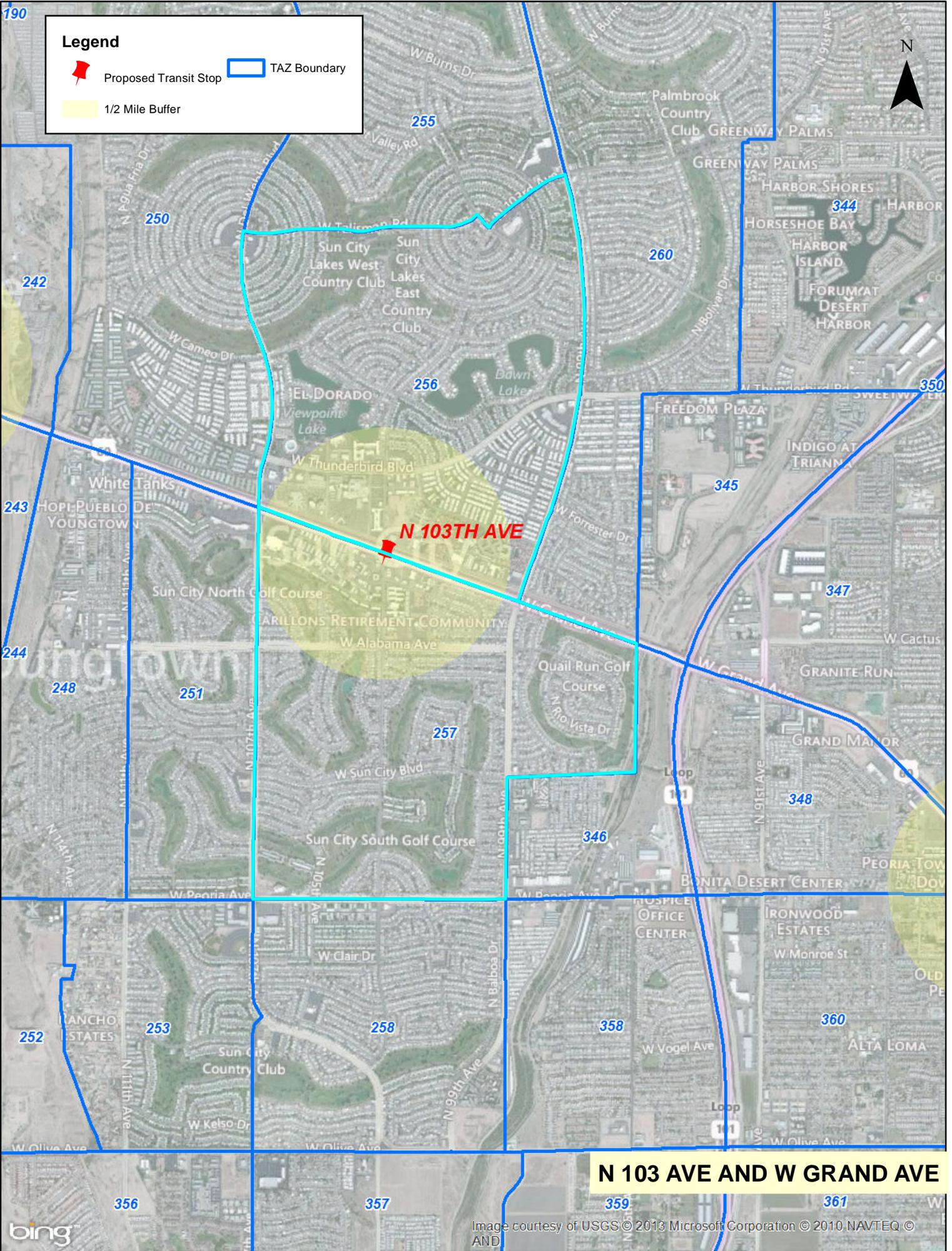
1/2 Mile Buffer



**THOMPSON RANCH RD**

**NORTH OF THOMPSON RANCH RD AND W GRAND AVE**

AND



**Legend**

-  Proposed Transit Stop
-  TAZ Boundary
-  1/2 Mile Buffer

**N 103 AVE AND W GRAND AVE**

**Legend**



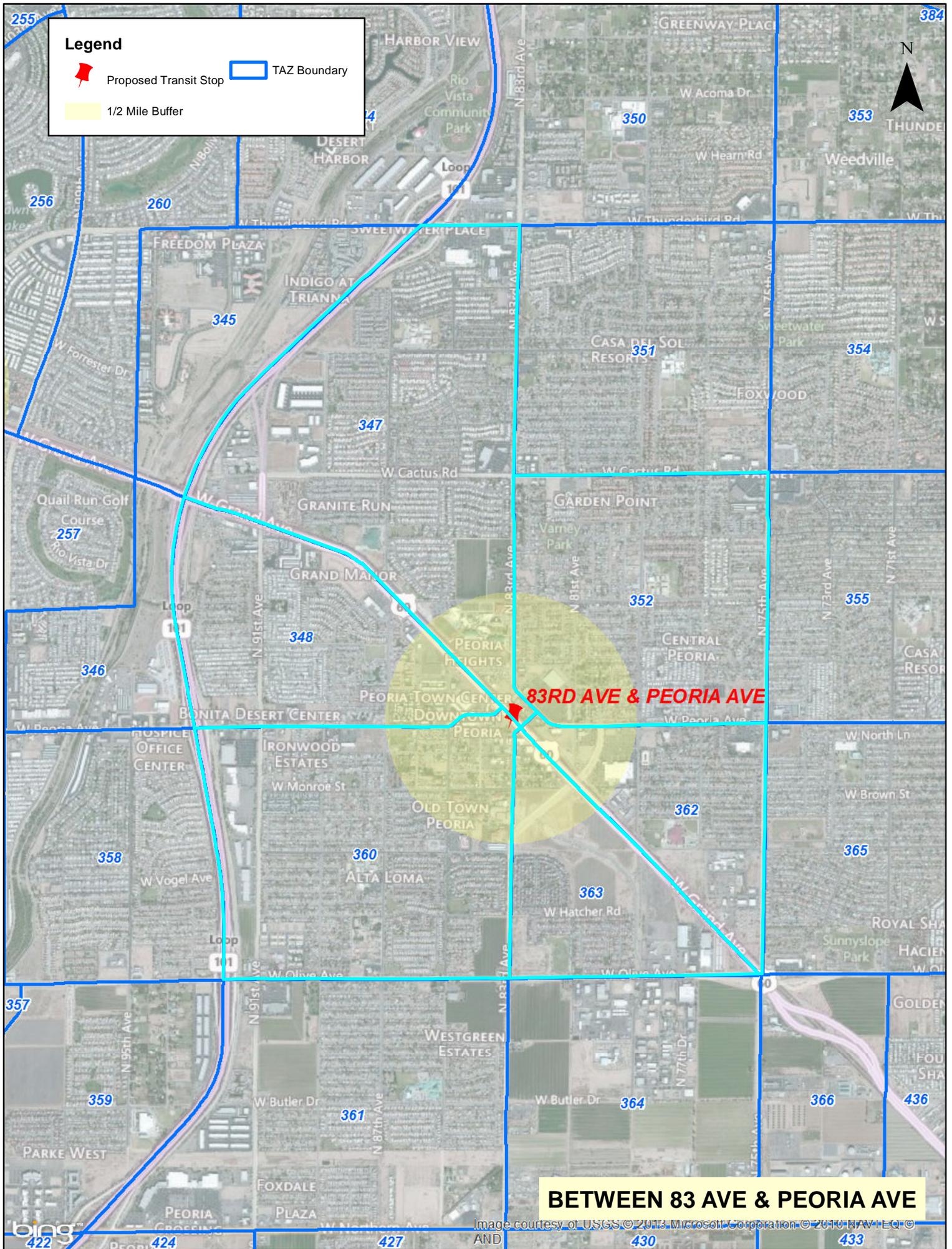
Proposed Transit Stop



TAZ Boundary



1/2 Mile Buffer



**BETWEEN 83 AVE & PEORIA AVE**

**Legend**

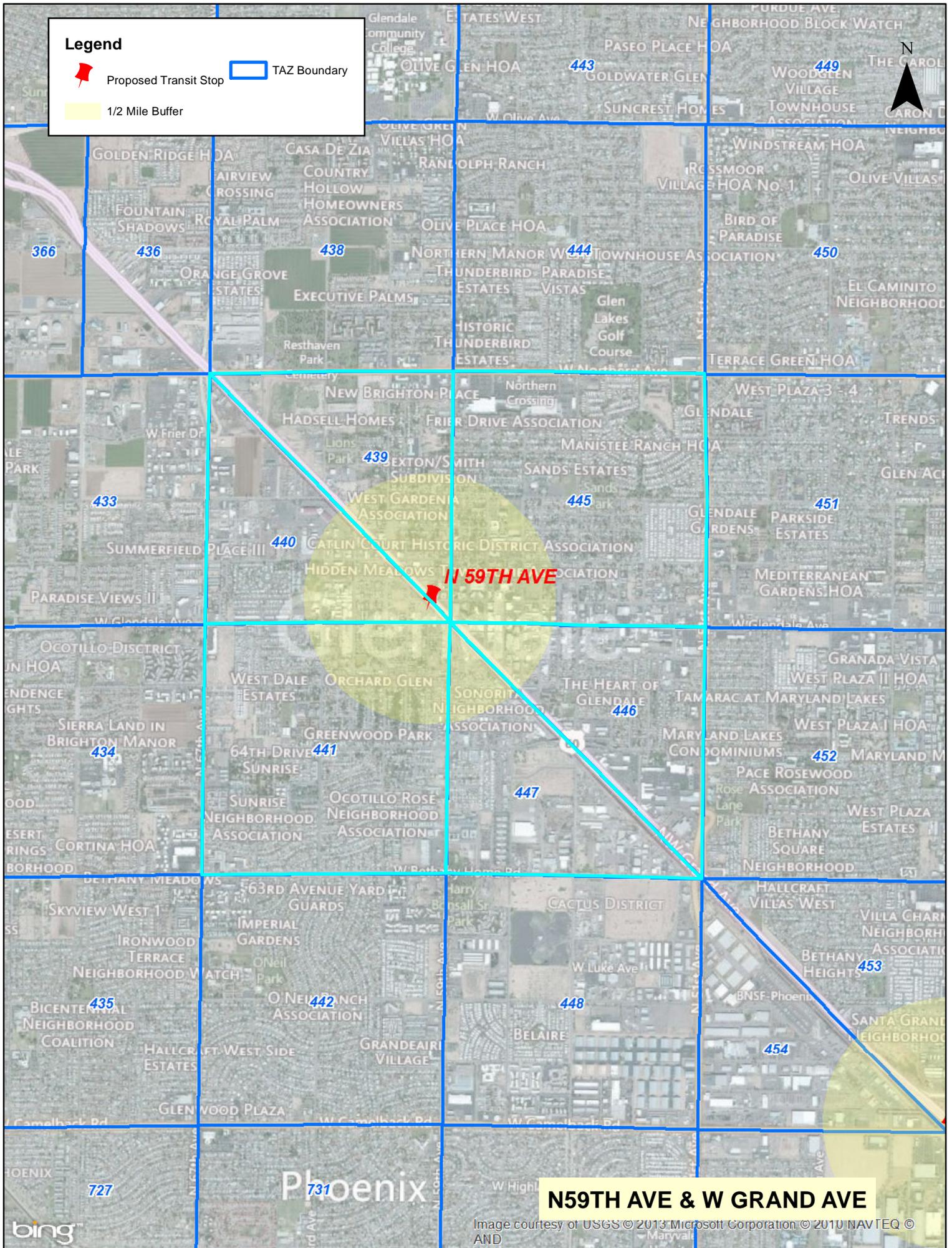


Proposed Transit Stop



TAZ Boundary

1/2 Mile Buffer



**N59TH AVE & W GRAND AVE**

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**Legend**

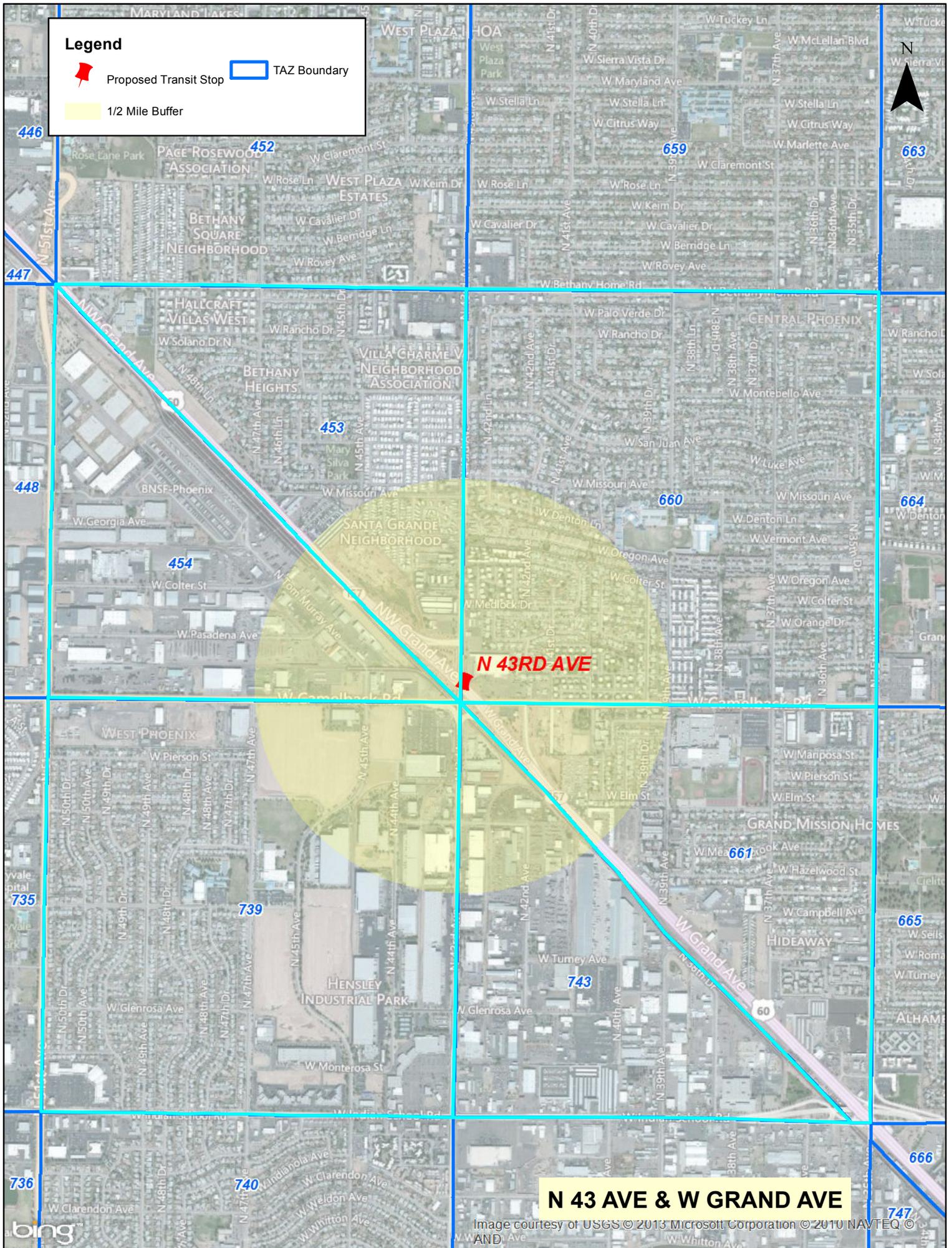


Proposed Transit Stop



TAZ Boundary

1/2 Mile Buffer



**N 43 AVE & W GRAND AVE**

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**Legend**

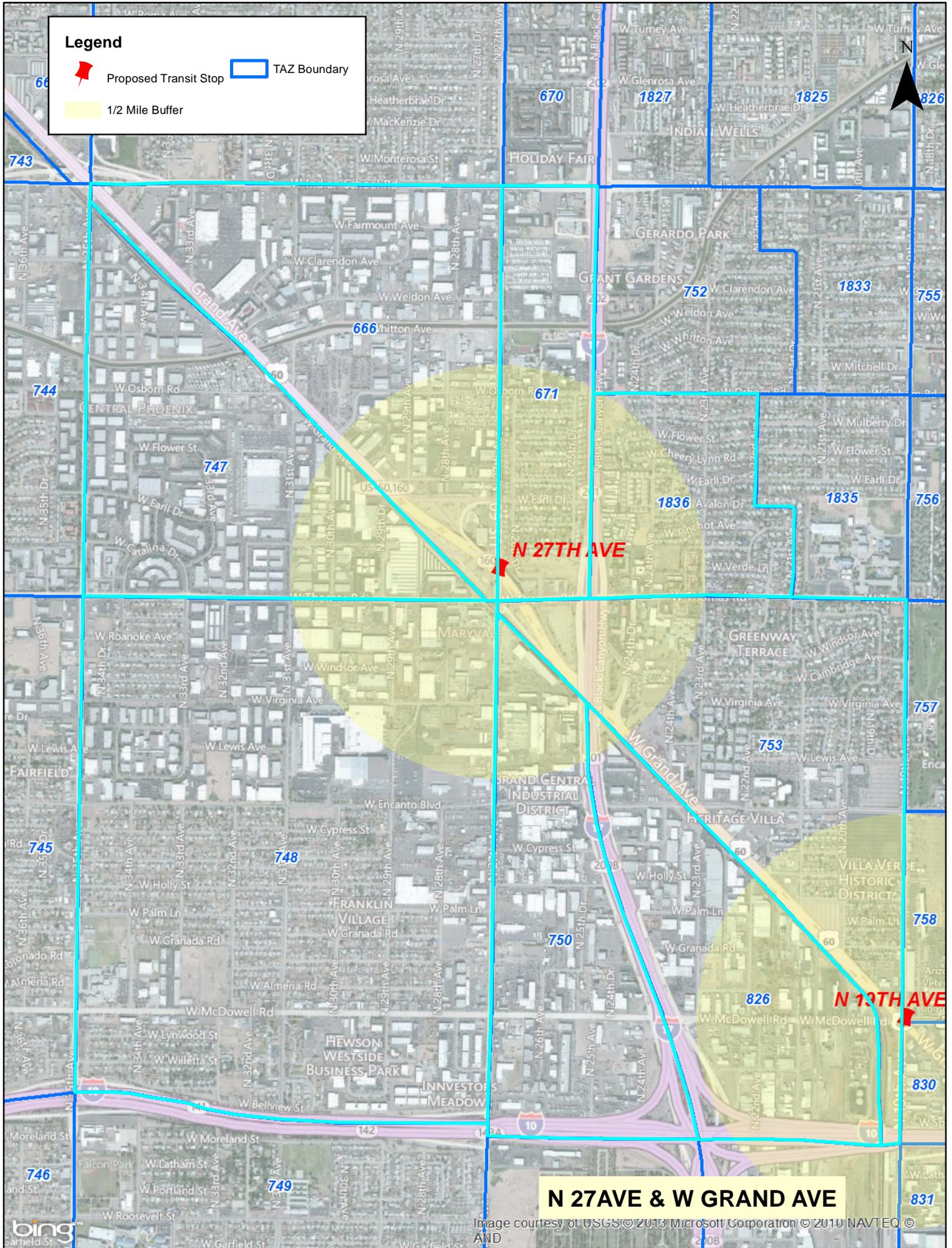


Proposed Transit Stop



TAZ Boundary

1/2 Mile Buffer



**N 27AVE & W GRAND AVE**

**Legend**

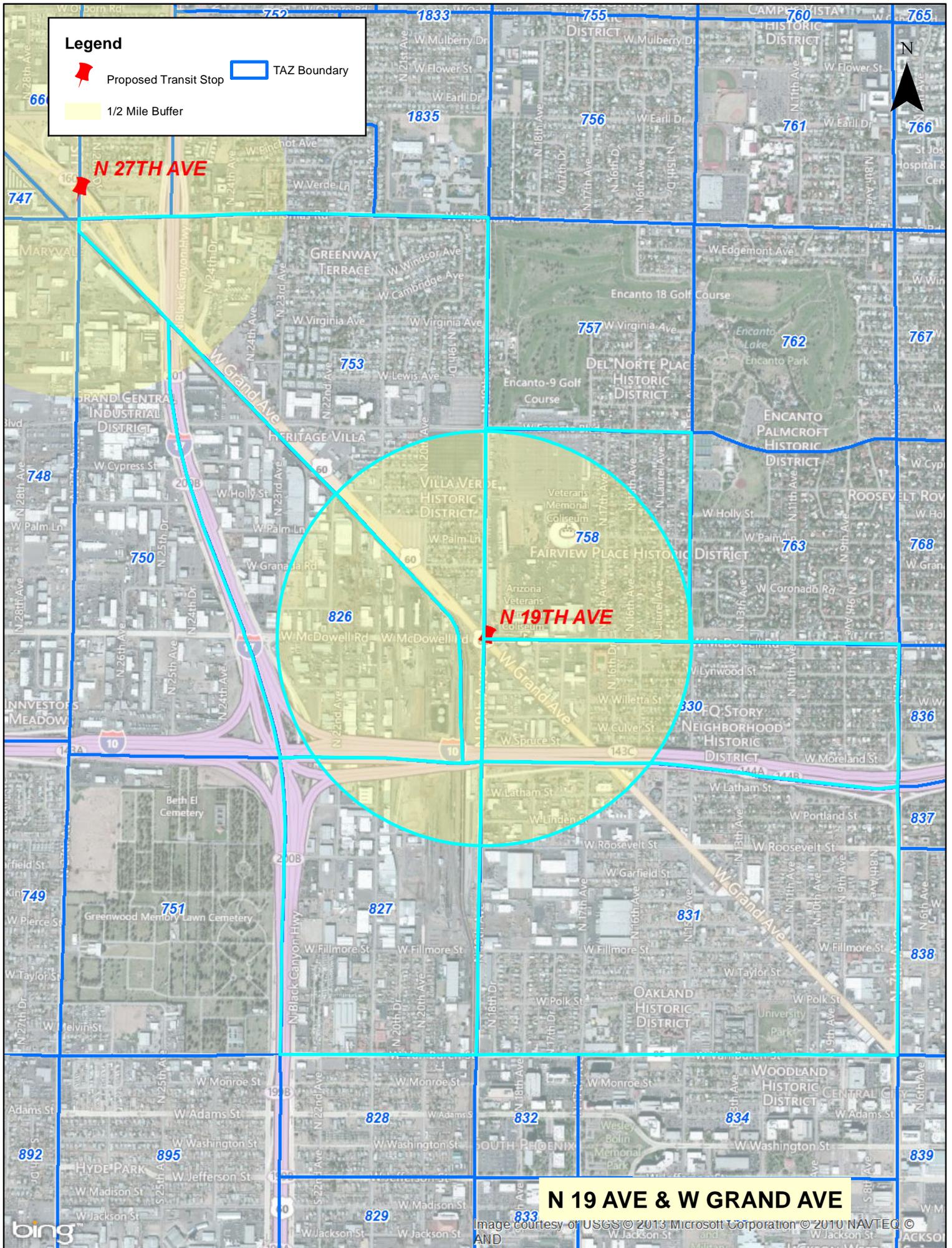


Proposed Transit Stop



TAZ Boundary

1/2 Mile Buffer



**N 19 AVE & W GRAND AVE**

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