



*Caring People
Quality Programs
Exceptional Service*

TO: Mayor and City Council

FROM: Kelly Diekmann, Planning & Housing Director;
Cory Scott and Marty Shukert, RDG

DATE: December 17, 2019

SUBJECT: Ames Plan 2040 Scenario Selection

City Council directed RDG to prepare four independent directional growth scenarios that could accommodate a population of approximately 15,000 additional people within the City of Ames. RDG presented initial concepts to the City Council at a workshop on July 16th. The scenarios were geographically located to the west, north, east, and south. The scenarios included different land use patterns and highlights of growth opportunities and potential constraints. City Council tasked the Ames Plan 2040 Team to work on refining the scenarios and preparing detailed analysis of infrastructure and service issues for the areas. Additionally, Council asked for the team to look at flexibility of growth areas and identify readily developable areas and other “tiers” of growth that could be supported. **The complete evaluation of the growth scenarios and “tiers” will be the topic of discussion for the City Council’s next workshop on December 19th.**

In preparation for this upcoming meeting, City Council asked for general feedback on what issues or priorities may help the Council evaluate the merits of the individual scenarios. The following is a list reflects considerations that RDG and staff have incorporated into our evaluation of the scenarios. City Council could utilize these same consideration in its evaluation of scenarios and options for the Ames Plan 2040 preferred land use discussion. The following list is in no particular order.

Scenario Considerations

- Infrastructure capacity and public service costs
 - Up-front investment costs by City
 - Long term total investment costs by the City
 - Is there overall value and desirability, not just a low cost to serve?
- Does development cause significant negative externalities to existing areas within the City, such as traffic patterns, sewer capacity utilization, etc.
- Would an area have comparatively fewer environmental impacts or have higher performing sustainability attributes, for example:
 - Lower vehicle miles travelled (VMT) per person
 - Natural area buffering/protection
 - Flood plain risk/protection
- Does the planned level of growth create a complete neighborhood or district?
 - Can it accommodate public facilities, such as a school or parks, commercial development, housing variety?
- Would developing a growth area facilitate community improvements or additional amenities that otherwise may not be realized, for example:
 - Open Space/Recreation Areas
 - Expanded or commercial opportunities
 - Upgraded roadways
- Does an area identified for growth support a diverse development pattern and compliment the character of Ames?
- Does the transportation system support both automobiles and alternative modes of transportation?
 - Future transit service
 - Bicycling and walking connections
- Market interest and demand
 - How does an area fit into or serve regional needs and job locations?
 - Will the planned housing make Ames competitive in attracting new workforce households?
 - Does it support or reinforce economic development goals for expansion of private industry and business within the City?
 - Is an area marketable for developers for the identified uses?
- Future Expansion and Planning
 - Can an area be expanded in the future and build upon initial investments; does it support long-term growth to 2050 and 2075?
 - Preserve future expansion areas that are not initially developed

LIVE.
GROW.
BELONG.



City Council Workshop #7

December 19, 2019



Agenda



1. Directional Scenario Evaluation

- a. North Growth
- b. East Growth
- c. South Growth
- d. West & Southwest Growth

2. Tiers Testing

- a. Review combinations of growth for many areas

3. Discussion and Next Steps for Selecting Preferred Land Use Plan Draft

- a. Directional or Tiered approach
- b. Prepare land use designations in selected area(s) and existing city for Draft Future Land Use Map, including housing and commercial development categories, uses, densities

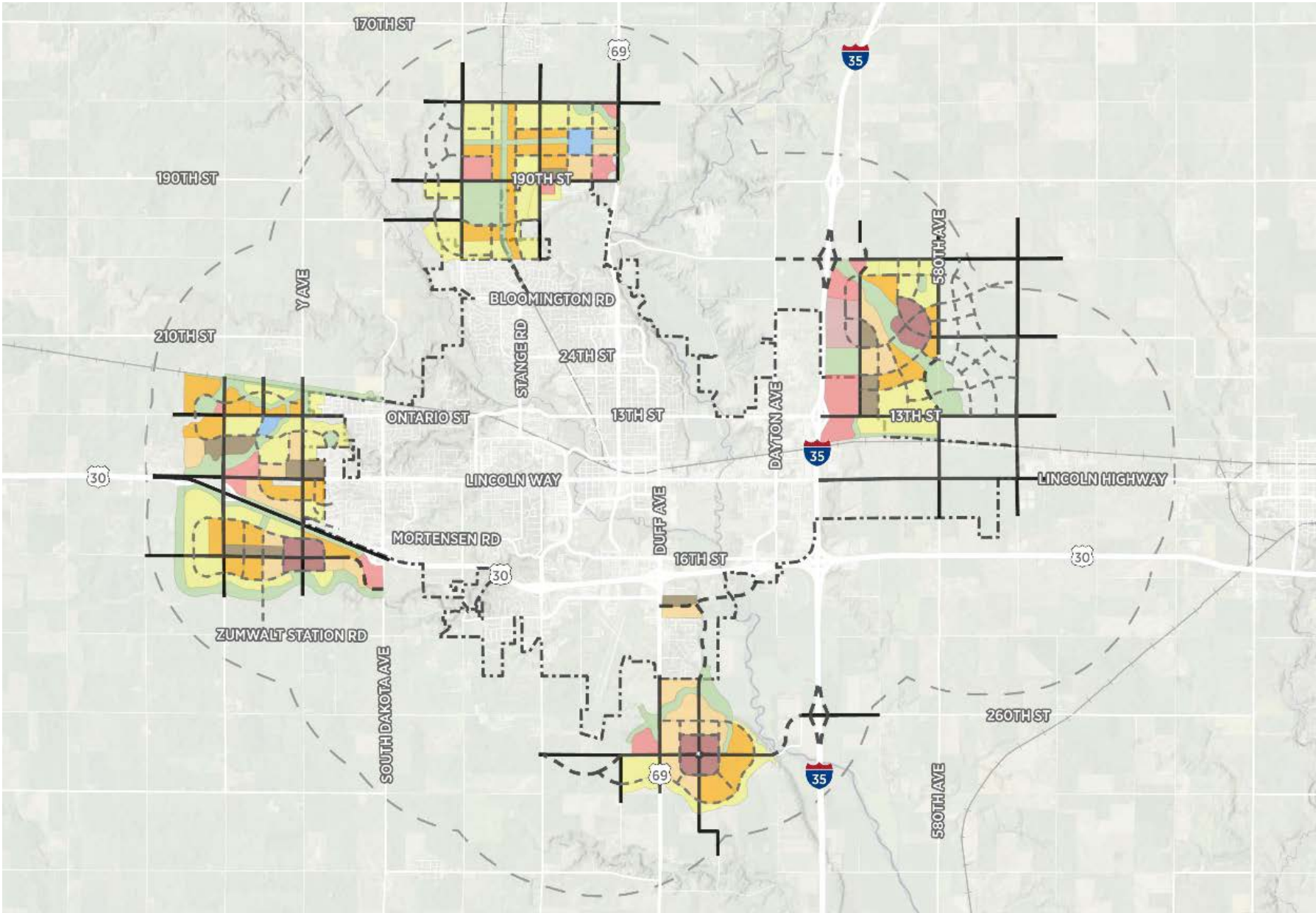


1. Directional Scenario Evaluation

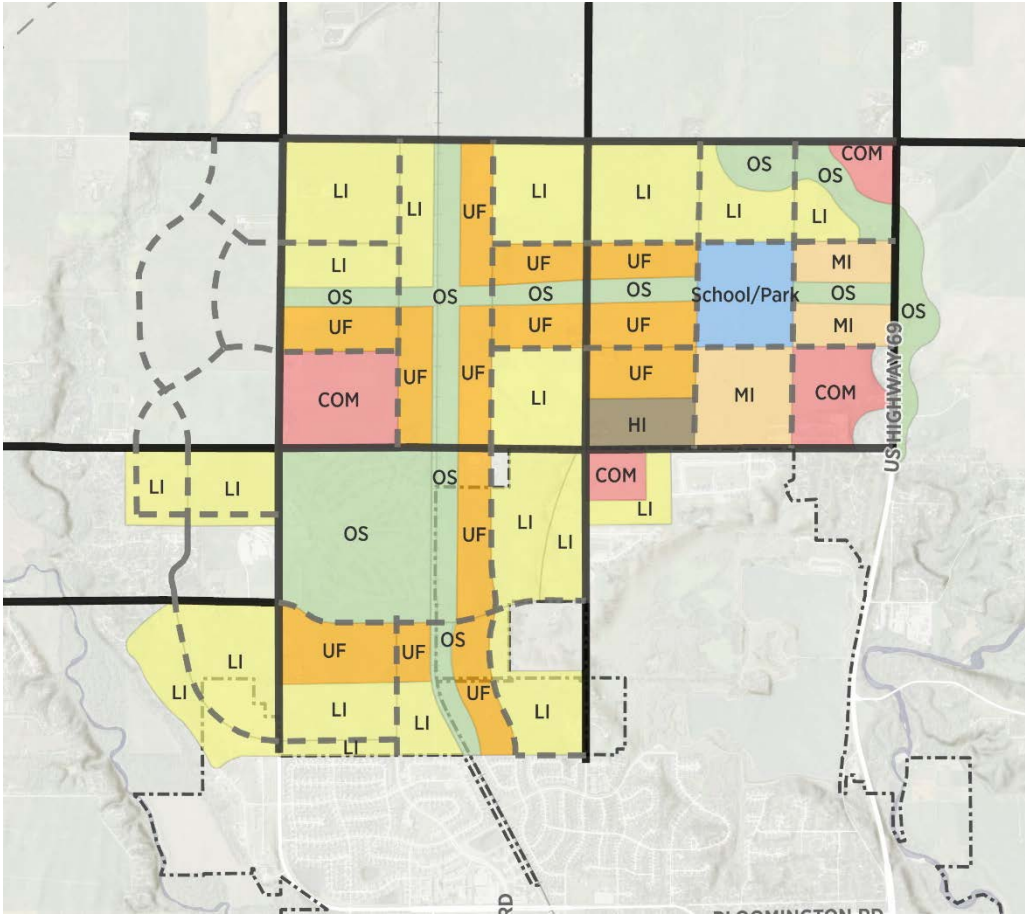
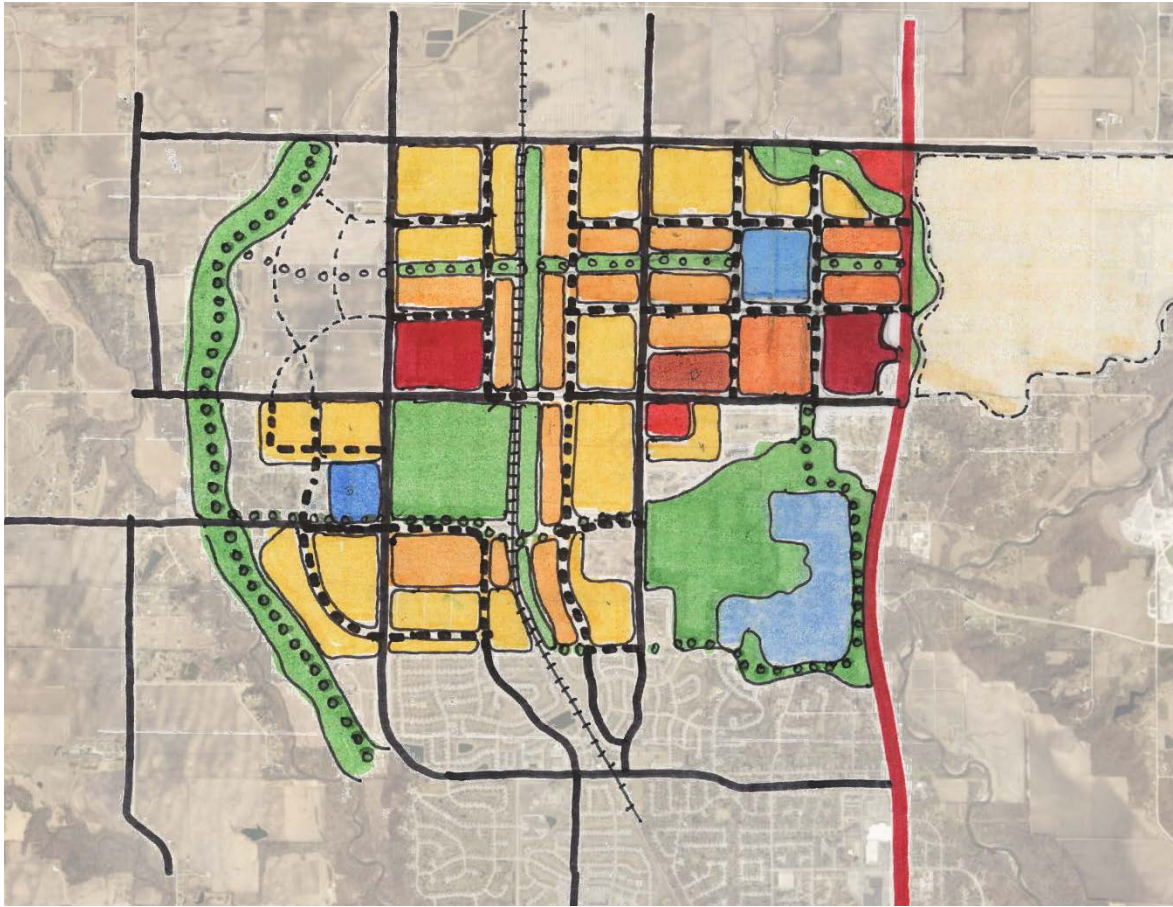


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Scenario Development Concepts



Concept Refinement



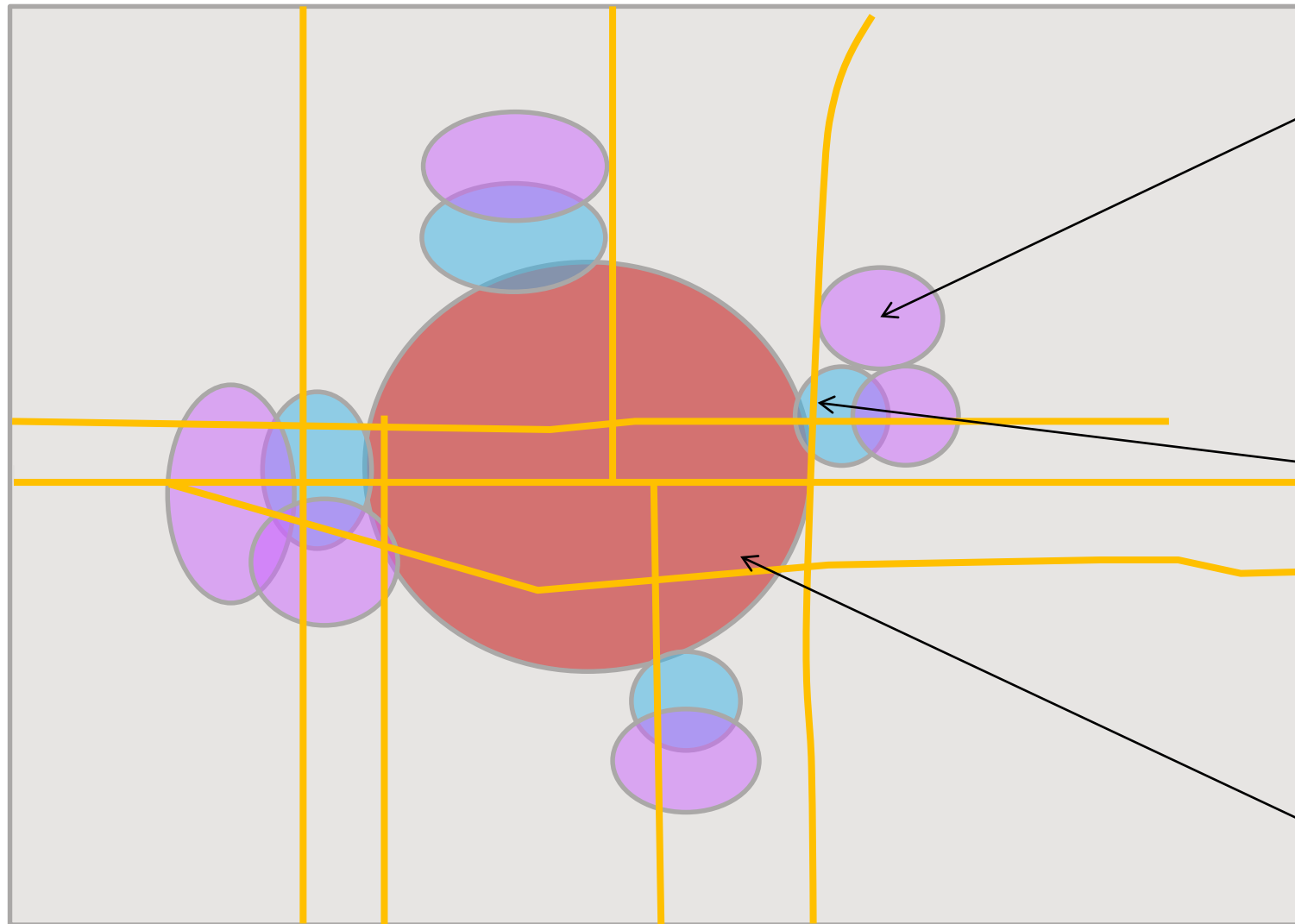
The map displays the proposed boundaries for the City of Beaverton, Oregon. The area is color-coded: yellow for the central urban core and green for surrounding areas. Major roads shown include I-5, I-10, I-205, and various local streets like Lincoln Way, Commercial St, and Beaverton Hwy. A north arrow is present in the bottom right corner.



2. Tiers of Development Within Scenarios

- a. Due to major infrastructure needs, divided areas into readily serviceable “Tiers”
- b. Provided estimates of needed infrastructure for buildout of the Tiers in total
- c. No revisions to the initial land use concepts were made to address Tiers at this time

Guiding Principles: Development Sequencing



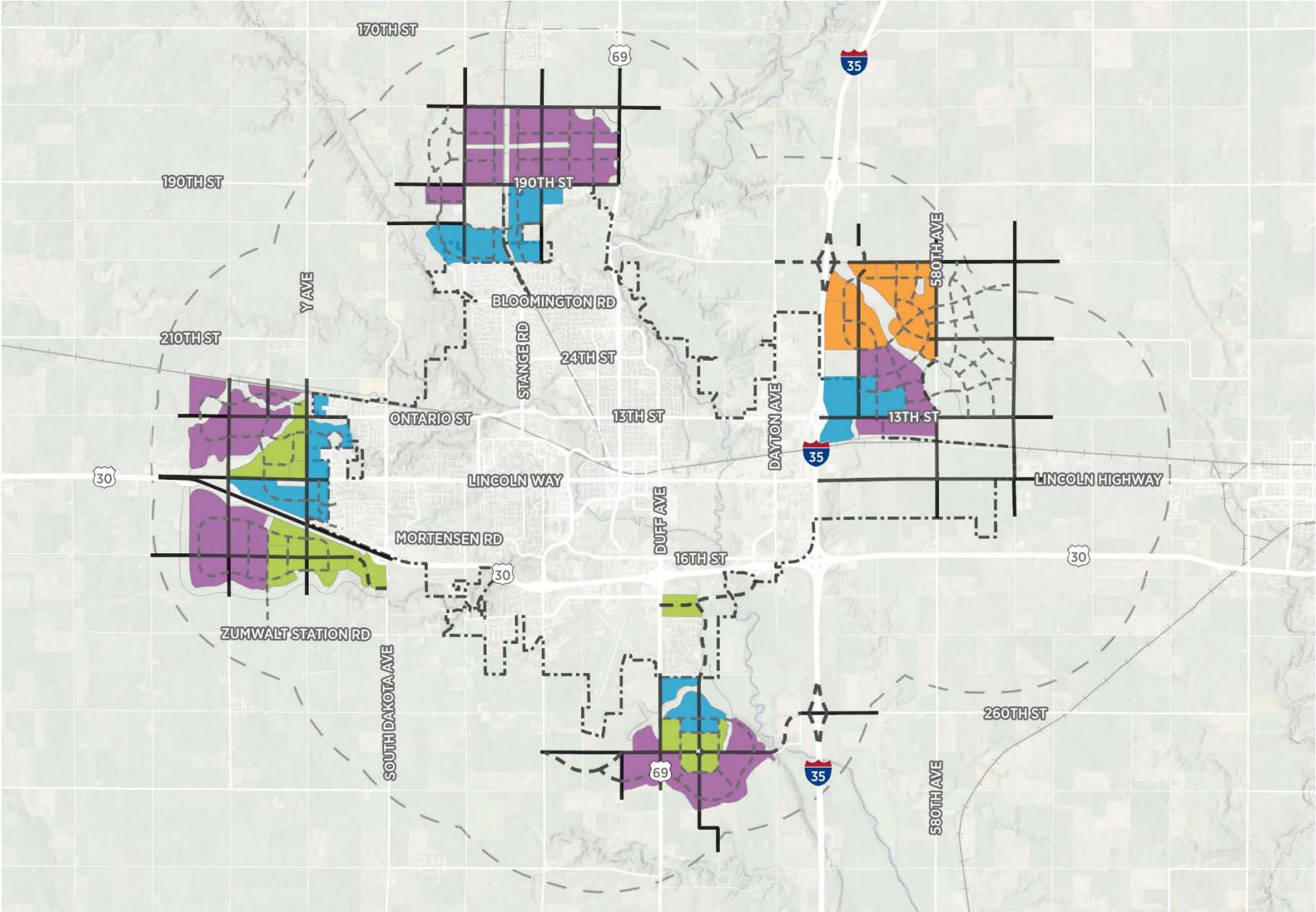
New development areas within urban services area requiring new infrastructure or substantial extensions

New development areas served by existing infrastructure or relatively low-cost incremental extensions

Infill sites surrounded by existing urban development

Development Tiers

- Tier 1
- Tier 2
- Tier 3
- Tier 4



Guiding Principles: Development Tiers

TIER 1

- Infrastructure is immediately available or achievable with short, incremental extensions.
- Street and trail connections are immediately available.
- Market precedents are clearly established and demonstrated.
- Job centers and commercial support are immediately accessible.

TIER 2

- Infrastructure is available with extensions of existing lines under ½ mile.
- Existing street network or spine trails are accessible, but require substantial extensions.
- Job centers and commercial support are reasonably accessible, but not directly adjacent.
- Market support is demonstrable but some “pioneering” element is required.

TIER 3

- Within urban services area, but requires significant pioneer infrastructure.
- New street corridors are necessary to provide adequate service.
- Regional arterial and interstate routes are available, but require a major facility investment (e.g. interchange)
- Currently, relatively remote and not contiguous to existing urban development.
- Requires significant reach into a new geographic market.
- Consistency with long-term urban development goals.
- New community and commercial service centers are required.

TIER 4

- Ultimate very long-term development but outside of current urban services area.
- Requires major redirection of local land use or ownership patterns.
- New community and commercial service centers are required.

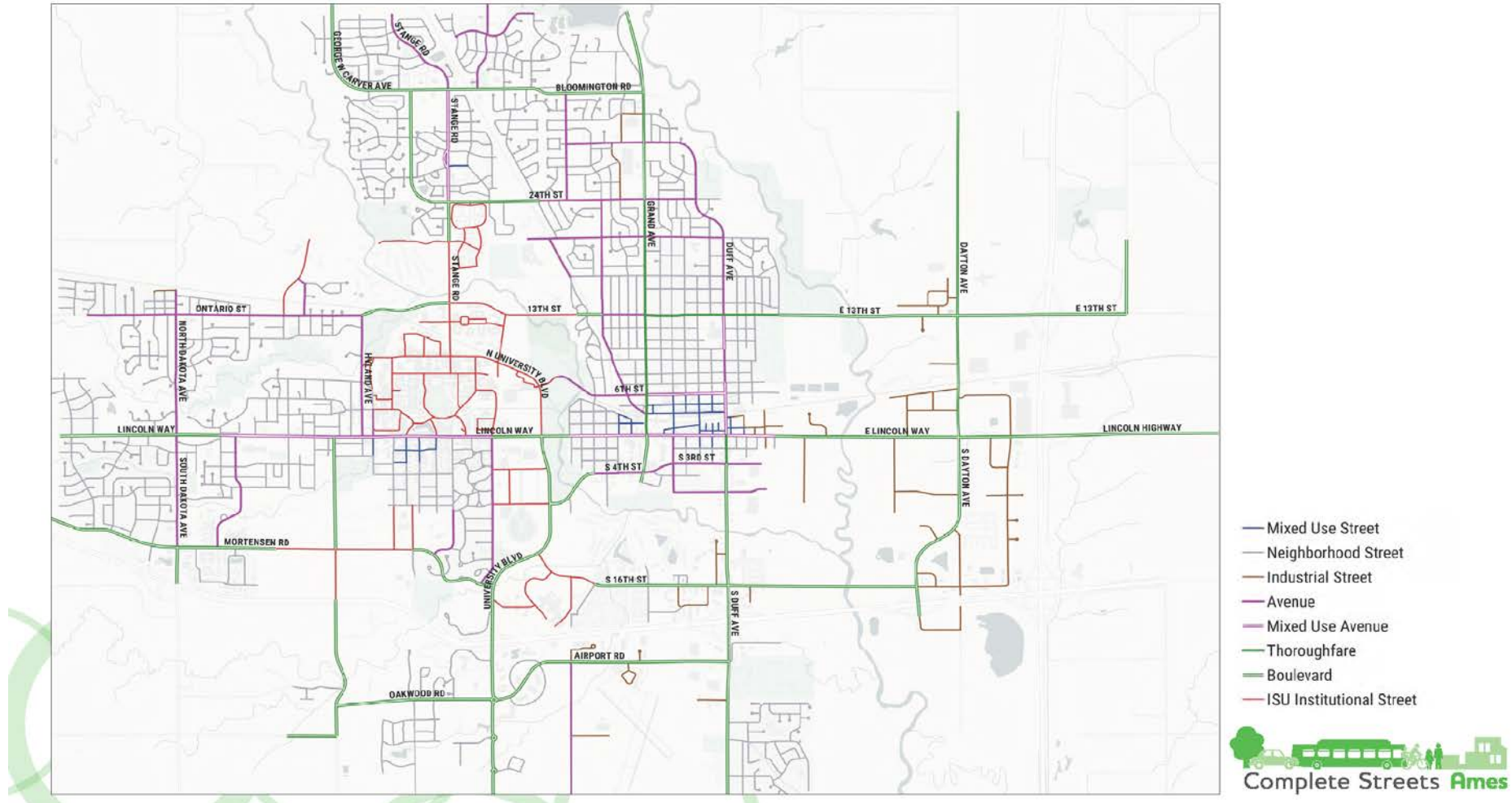


Tier Analysis

Road Classifications

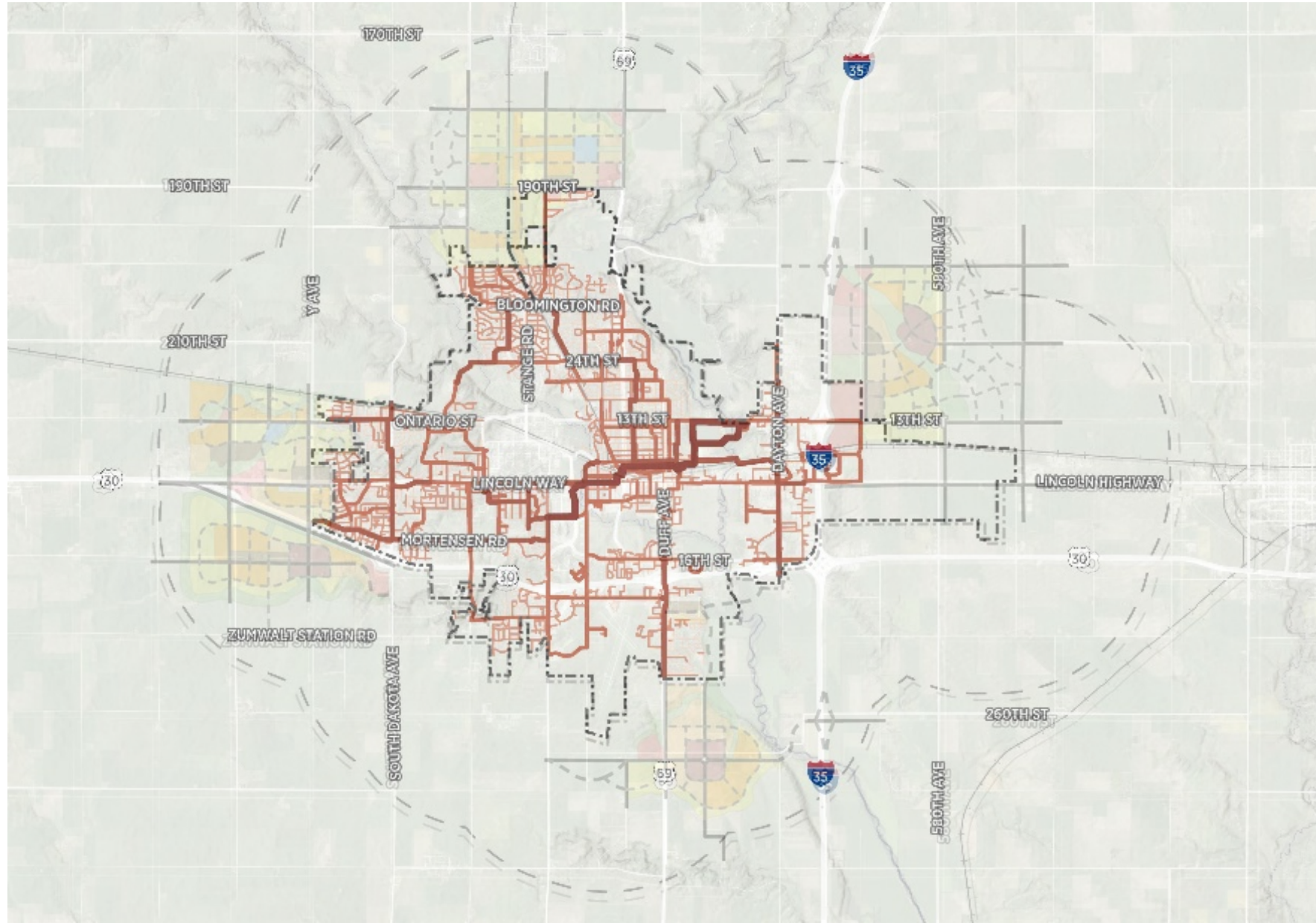
STREET TYPE MAP

Street types have been selected for existing public streets within the City of Ames, except for ISU's institutional streets. This map is intended to illustrate how street types will be applied and is not a regulatory document.



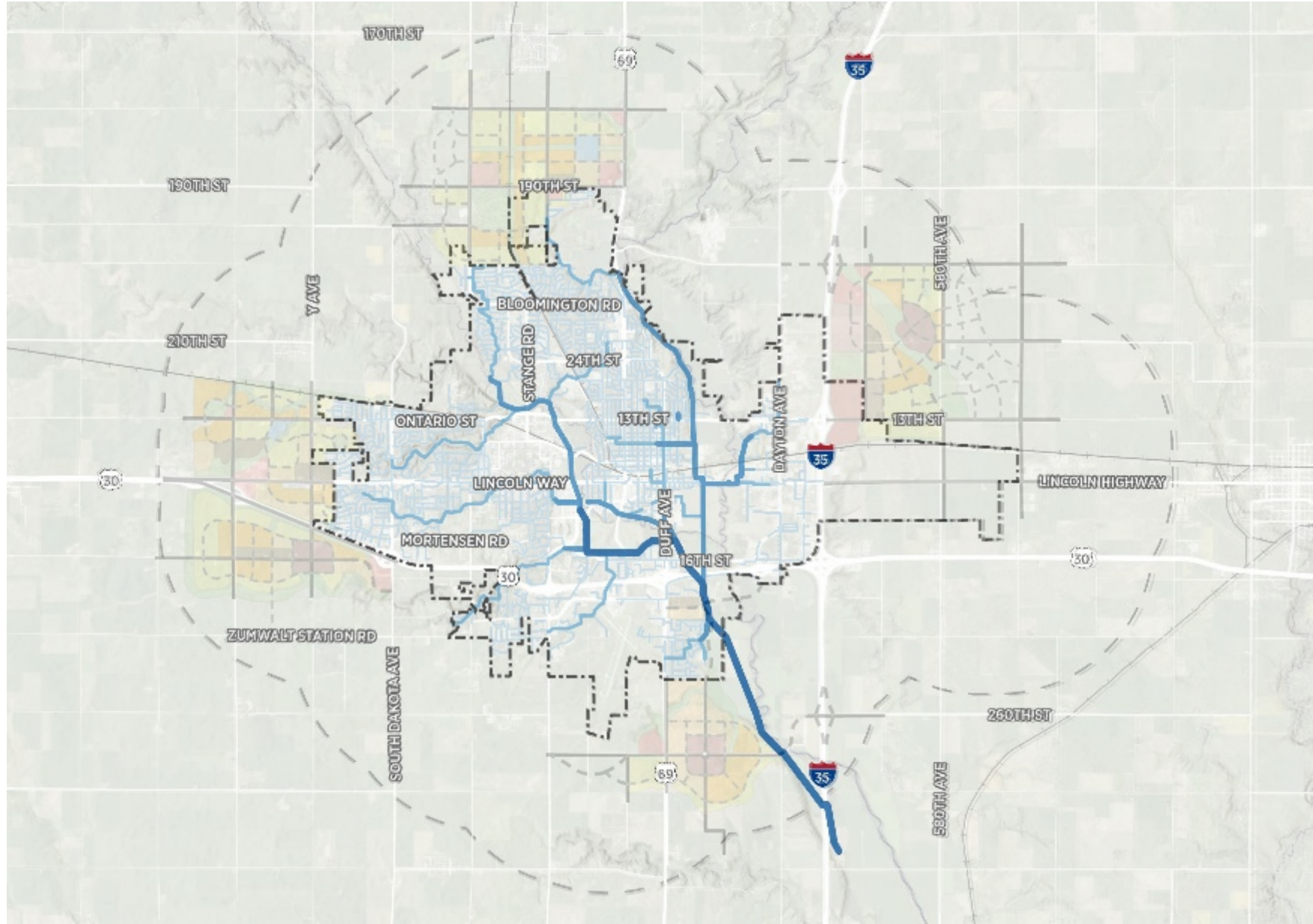
Tier Analysis

Existing Water Distribution



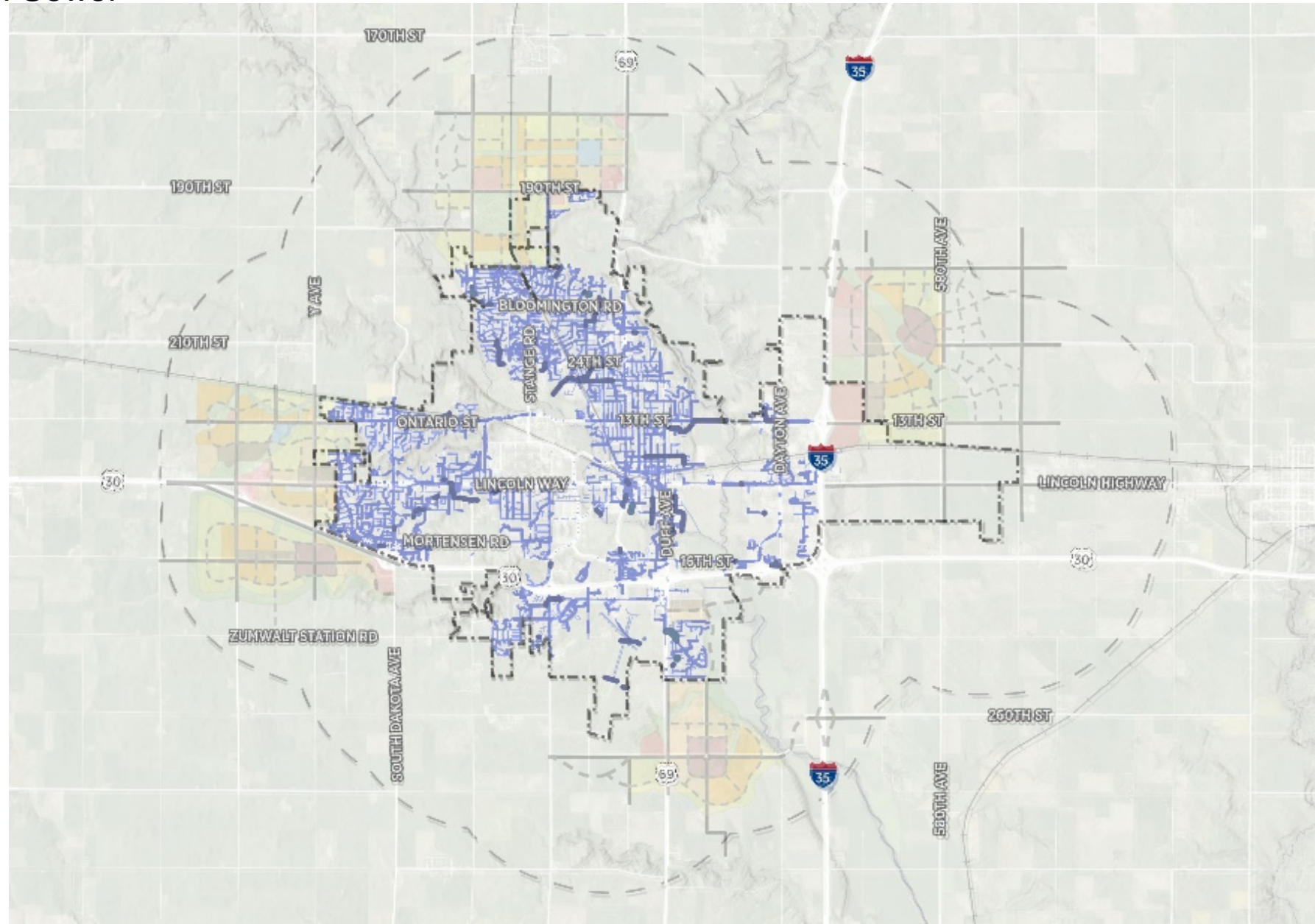
Tier Analysis

Existing Sanitary Sewer



Tier Analysis

Existing Storm Sewer



Notes For Scenario Tiers:

- Analysis and projects identified here are key components needed to serve identified growth areas.
- These projects are likely in addition to other necessary infrastructure or transportation system improvements that provide benefits to both existing areas and proposed new development areas.
- Growth in these areas may have impacts on the existing developed city, creating a need for other projects within the currently built-up area of Ames.
- The projected costs do not indicate that the City of Ames would be responsible for identified costs. The City has certain policies in place regarding development and infrastructure costs that are not addressed as part of this evaluation of service needs.



Notes For Scenario Tiers:

Technical Assumptions for modeling

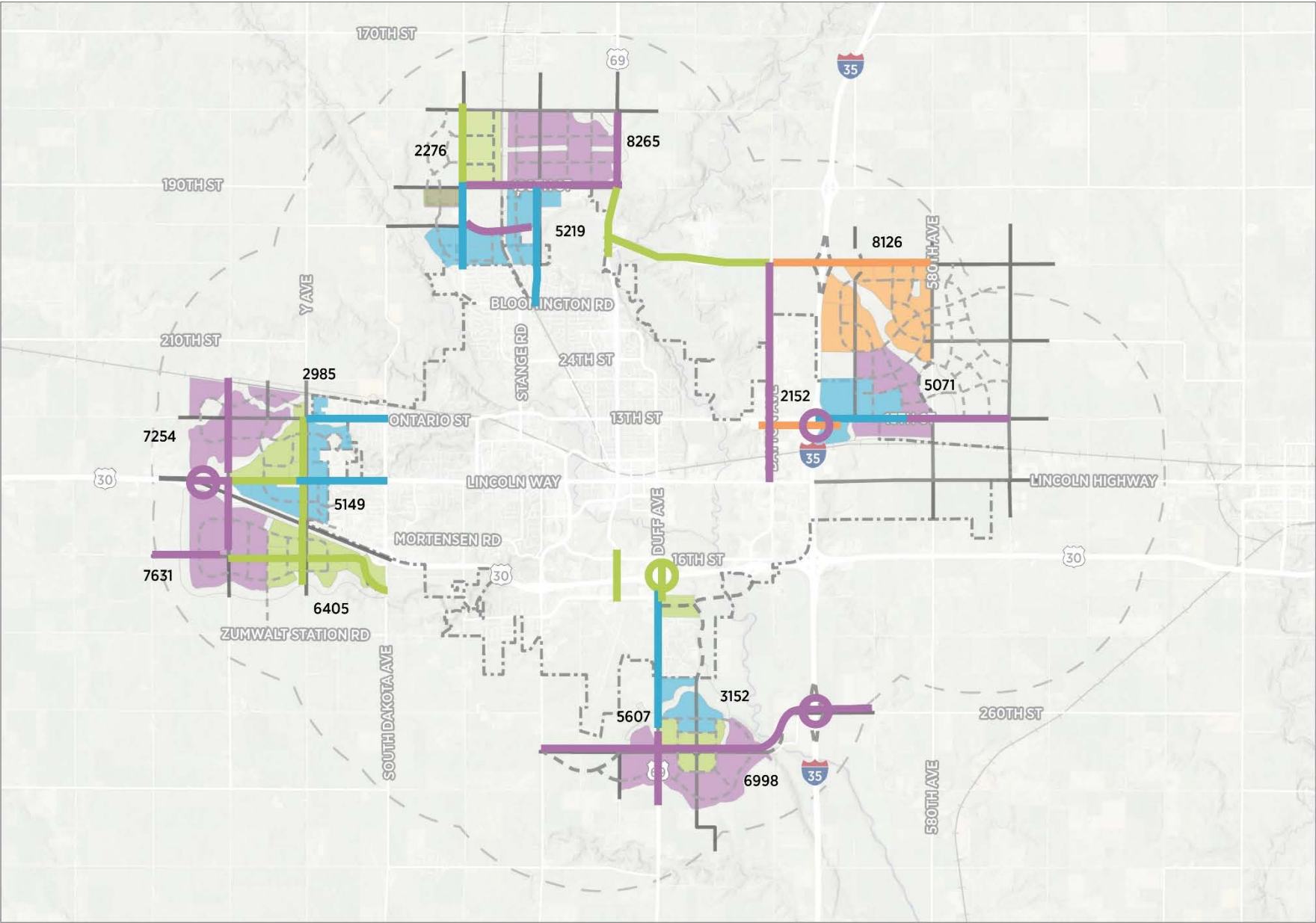
- Assumed Industrial growth as a “background” condition, meaning scenario outcomes are on top of growth related to the industrial areas and other general growth in the area
- The traffic analysis relied upon the 2040 transportation model used for the current Long Range Transportation Plan by adding in modified growth assumptions for the identified scenarios, and deleting growth in the Northwest Area along North Dakota
- Water and Sewer models based on current conditions and growth was added or loaded into the model
- Fire response modeling assumed relocation of Station 2 to the west would occur regardless of growth direction per previous discussions, response time standard applied was for 85% of citywide calls as a Fire Department performance goal
- Projected costs are in 2019 dollars



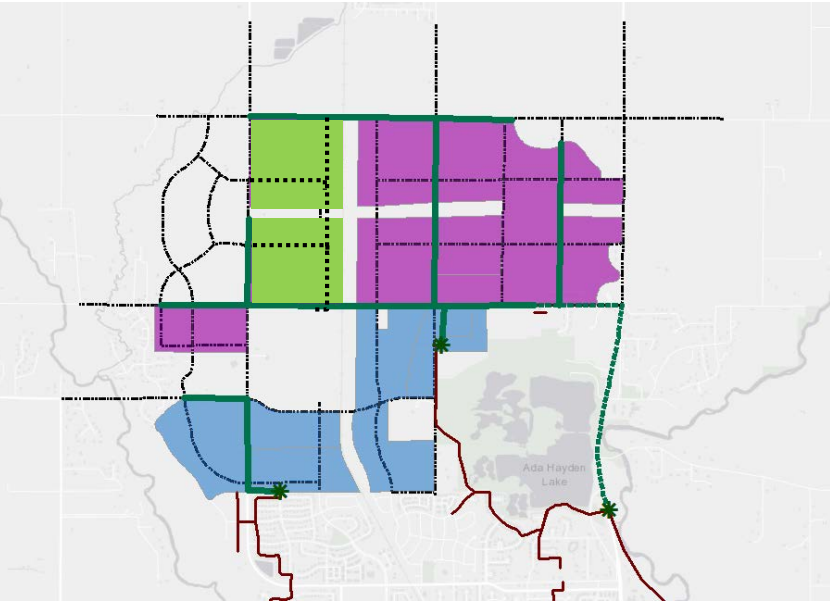
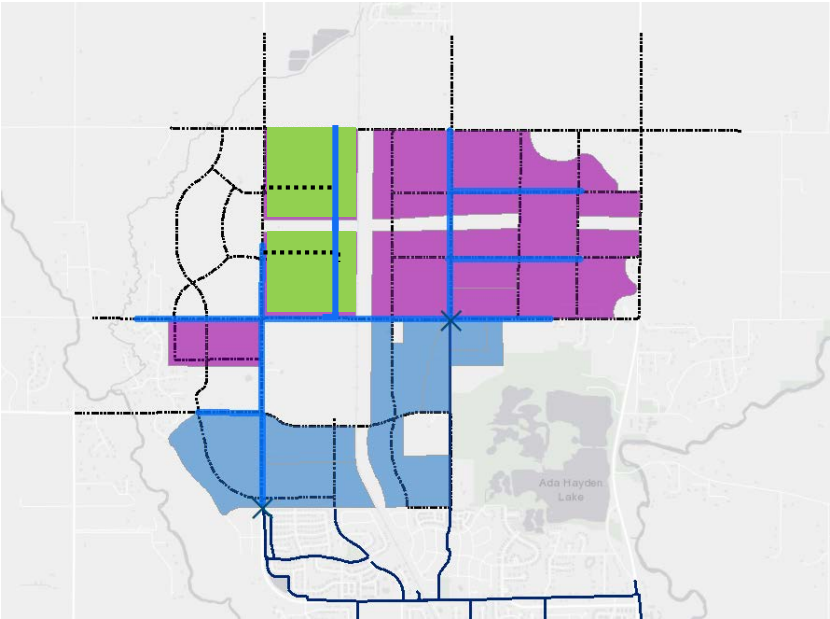
Tier Analysis-Transportation Map with Population Estimates Served




- Tier 1
- Tier 2
- Tier 3
- Tier 4

Notes-highlighted segments indicate road improvements associated with a Tier



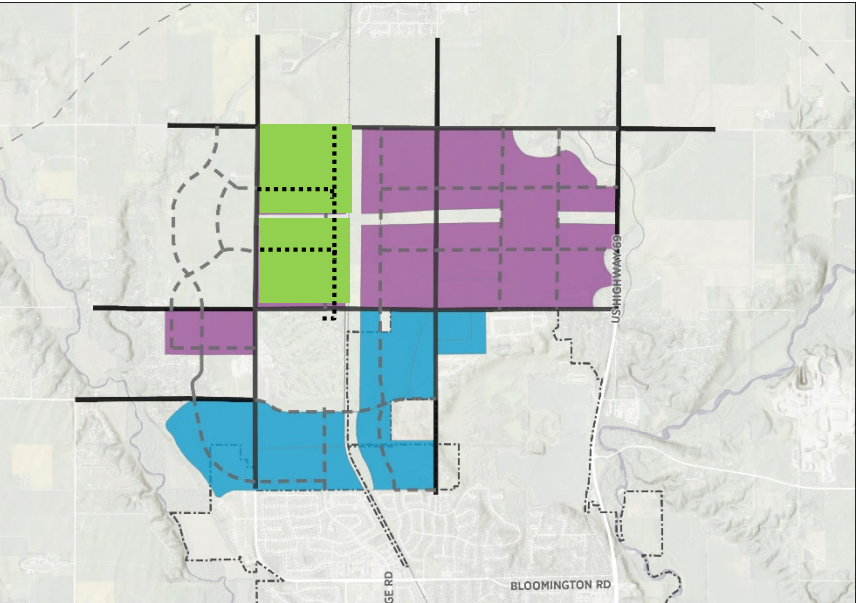
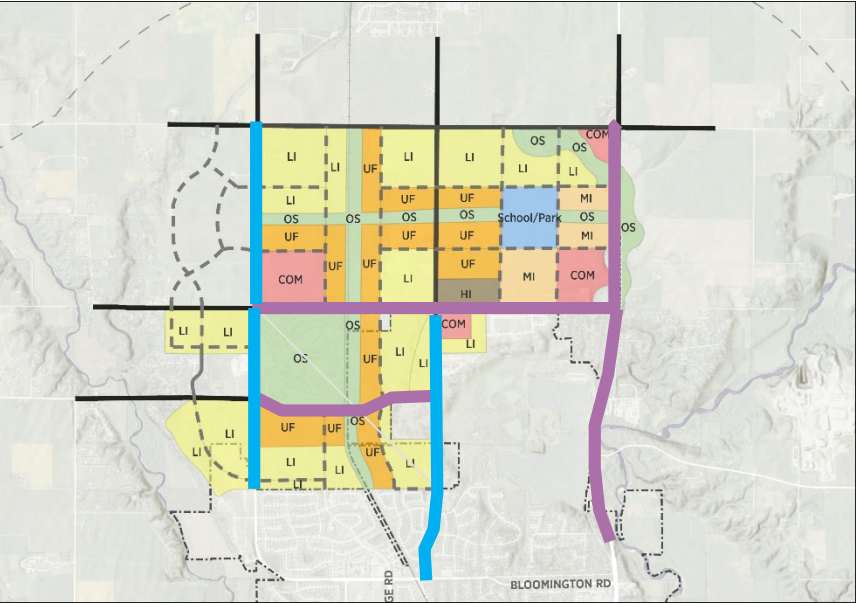
North Growth Area Summary



| | Tier 1  | Tier 2  | Tier 3  |
|----------|--|--|--|
| Water | Distribution mains throughout Tier 1. (\$1.0M) | Distribution mains throughout Tier 3. (\$1.5M) | Distribution mains throughout Tier 3. (\$4.3M) May require pressure boost to support higher service elevations. Does not have negative impact on existing distribution system. (\$4.0M for water tower) |
| Sanitary | Collection mains throughout Tier 1. (\$2.1M) | Collection mains throughout Tier 2. (\$2.5M) | Collection mains throughout Tier 3. (\$7.3M) Reduces available capacity in 36" trunk line on Access to City Wells between Lincoln Way and Hwy 30*. The future growth with East and North will have a compounding effect on this area. |

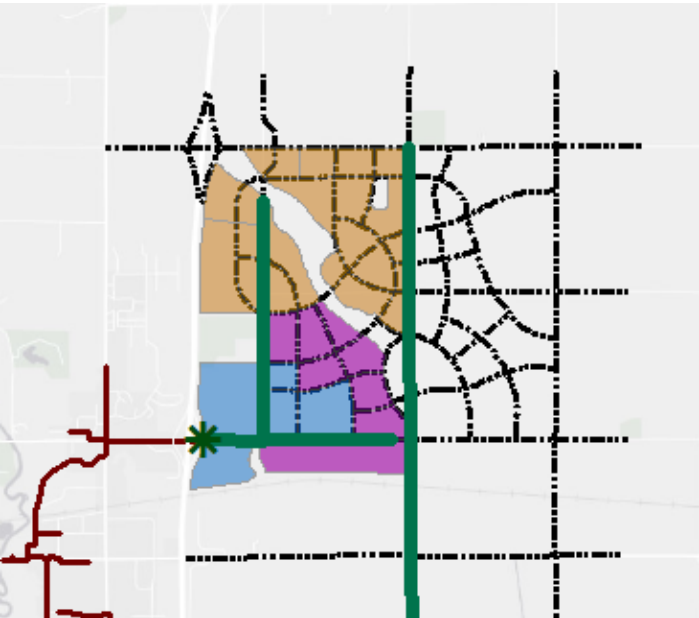
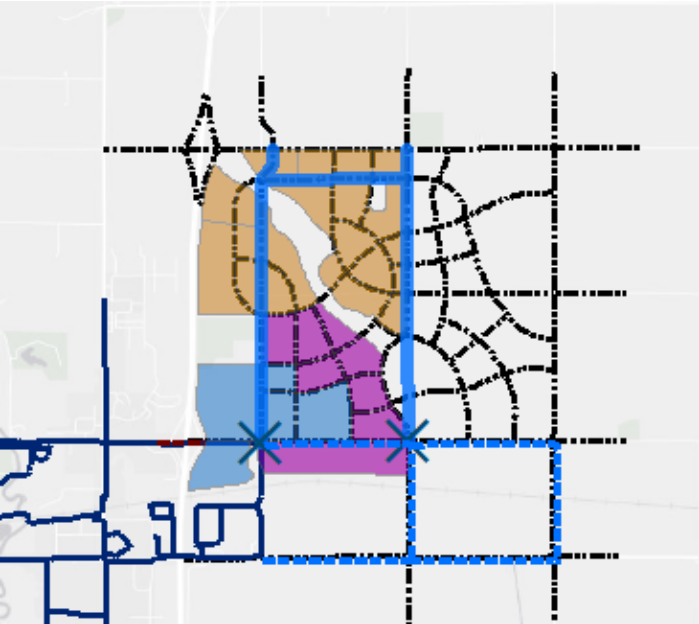
Note: Green dash lined shown as proposed alternative, not needed to support projected growth
* Will discuss implications more in presentation




North Growth Area Summary



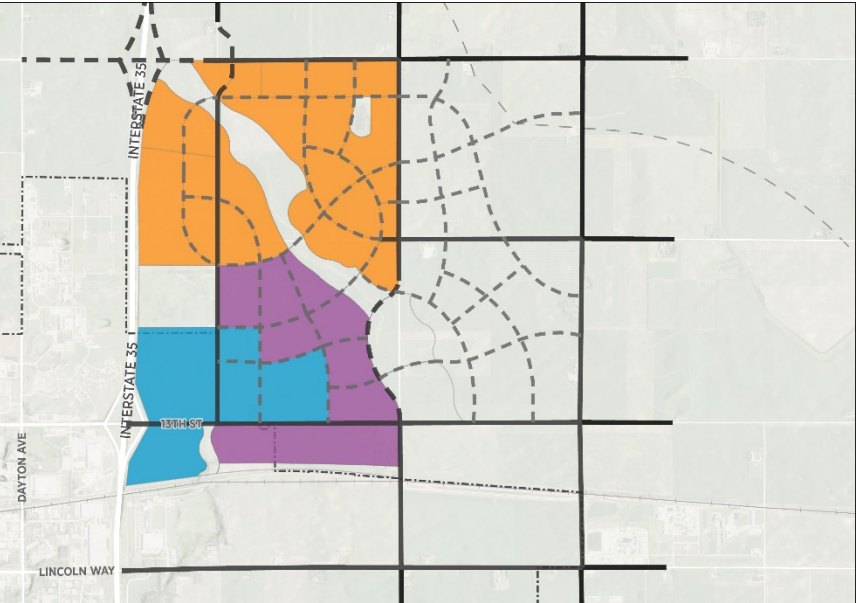
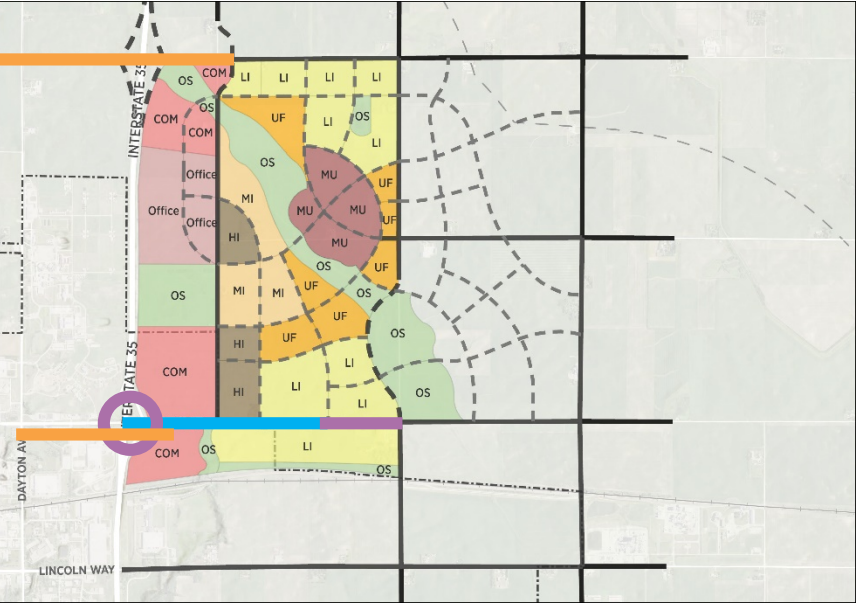
| | Tier 1 <div></div> | Tier 2 <div></div> | Tier 3 <div></div> |
|----------------|---|---|---|
| Storm | New storm along GW Carver extension | New storm for transportation improvements | New storm for transportation improvements |
| Transportation | Traffic Calming on Hyde Ave Corridor (\$1M) Extend 3-lane GW Carver through growth area (\$6M) | | Extend 4-lane urban widening on Grand / US 69 through growth area (\$12M) 3-lane widening: <ul style="list-style-type: none">190th St (\$15M)Riverside (Grand to Dayton) (\$15M)Dayton (Riverside to Lincoln Way) (\$18M) Alternate route to Hyde (neighborhood impacts) (\$6M) |
| Public Safety | Need Fire Station to meet citywide goals \$6 million for constructing and equipping station, plus personnel | | |

East Growth Area



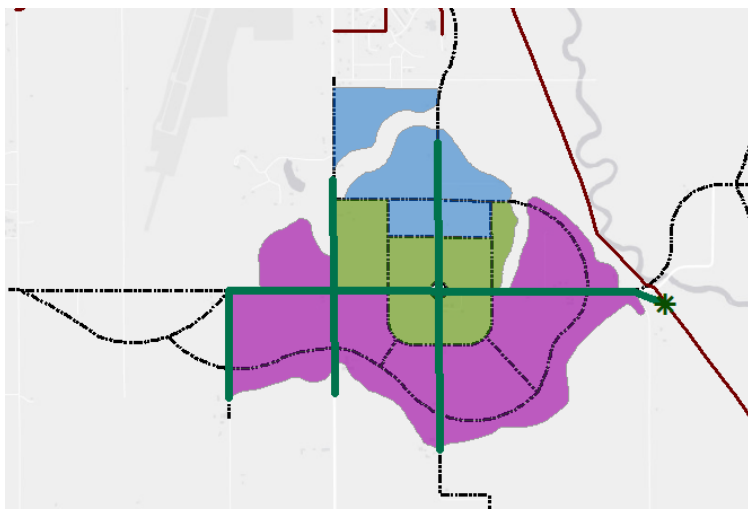
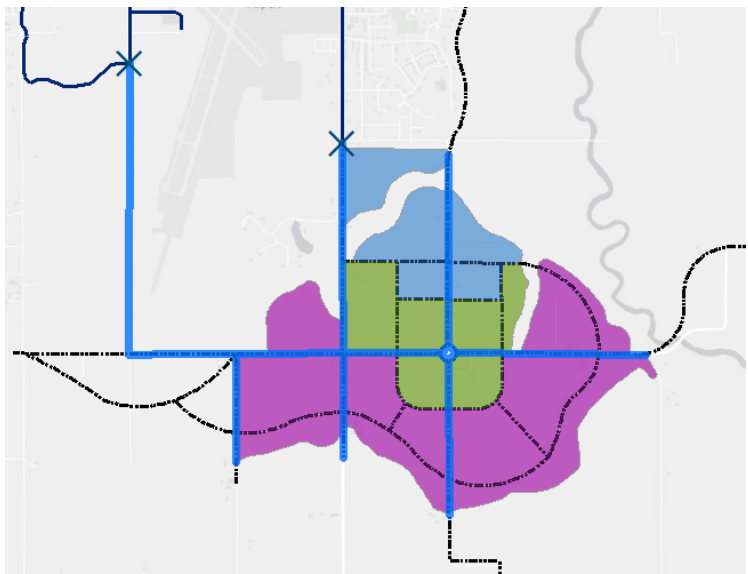
| | Tier 1  | Tiers 3 and 4   |
|----------|--|--|
| Water | Distribution mains throughout Tier 1. (\$0.5M) | Distribution mains throughout Tiers 3 and 4. (\$4.0M) Observed head-loss in transmission lines to new growth area. May require new water tower or pressure boost to support new service elevations. Filling tank in off peak hours may alleviate observed head-loss concerns in existing system. (\$4.0M for water tower) |
| Sanitary | Collection mains throughout Tier 1. (\$2.1M) | Collection mains throughout Tiers 3 and 4. (\$9.0M) Reduces available capacity in 36" trunk line on Access to City Wells between Lincoln Way and Hwy 30. Full build out (depending on industry loading) may require new trunkline south to the treatment plant. (\$21.0M) |




East Growth Area



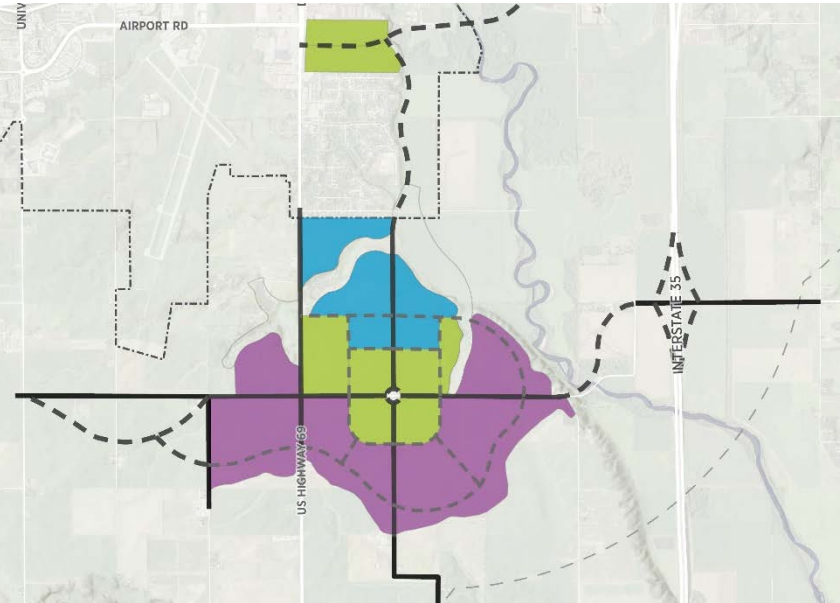
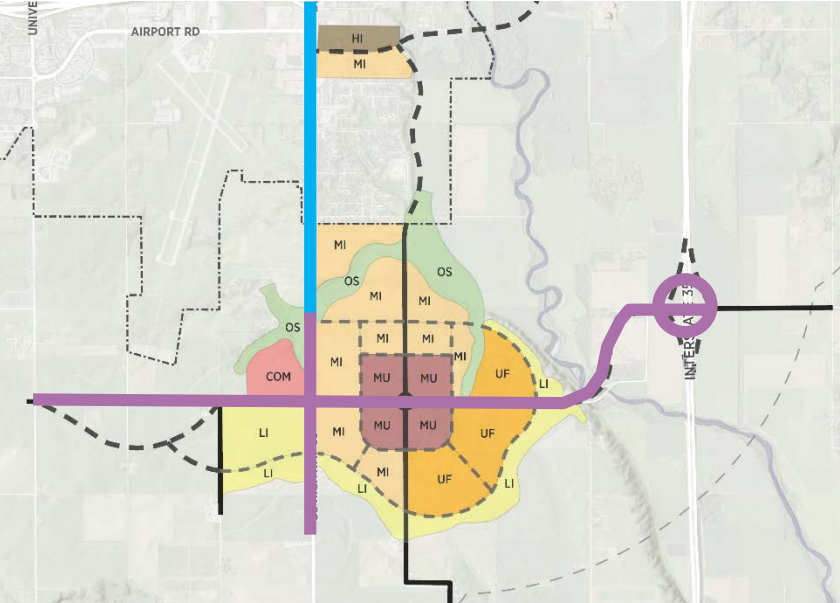
| | Tier 1  | Tier 3  | Tier 4  |
|----------------|--|--|--|
| Storm | Extend storm sewer along 13 th Street | Extend storm sewer along 13 th Street | Maintain drainage way as flowage easement |
| Transportation | Extend 4-lane 13 th Street to Tier 1 growth area (\$8M) | Extend 4-lane 13 th Street farther east to Tier 3 growth area (\$16M) Reconstruct I-35 / 13 th Street interchange (\$18M) | Widen 13 th Street to 6-lane divided from Dayton to east of I-35 interchange (\$8M) Consider new Riverside / 200 th Street corridor and overpass of I-35 (\$9M) |
| Public Safety | | No station directly required to meet overall city goals. However, most if not all of the area is outside of 5 min. 30 sec. response time | |

South Growth Area



| | Tier 1  | Tiers 2 and 3   |
|----------|--|--|
| Water | Distribution mains throughout Tier 1. (\$1.1M) | Distribution mains throughout Tier 2. (\$3.8M) Distribution mains throughout Tier 3. (\$1.9M) Full build out creates velocity concerns in the 14" main along S Duff avenue from Airport Rd to the connection point for the future growth area. Larger diameter transmission or redundant connection points would alleviate stress on existing distribution system. |
| Sanitary | Collection mains throughout Tier 1. New connection point to existing trunkline. (\$3.2M) | Collection mains throughout Tier 2. (\$2.3M) Collection mains throughout Tier 3. (\$3.3M) |

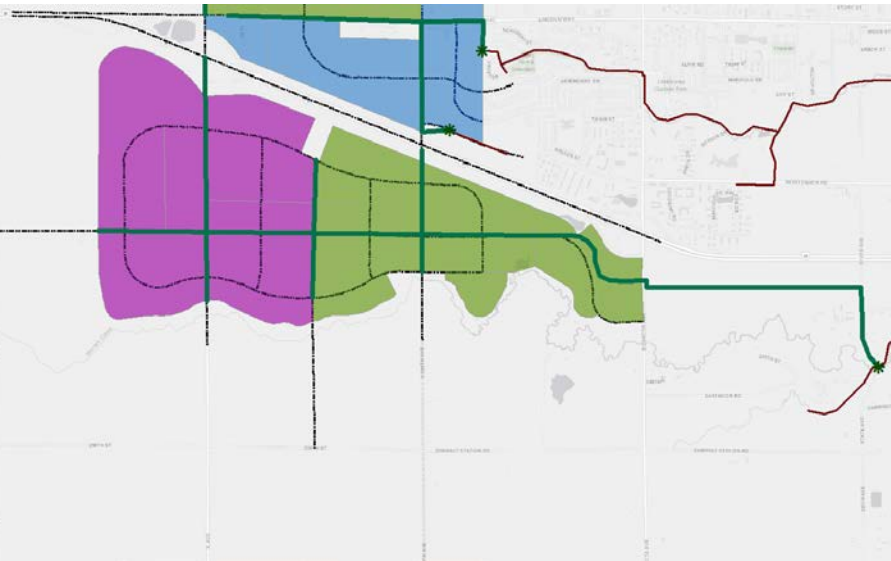
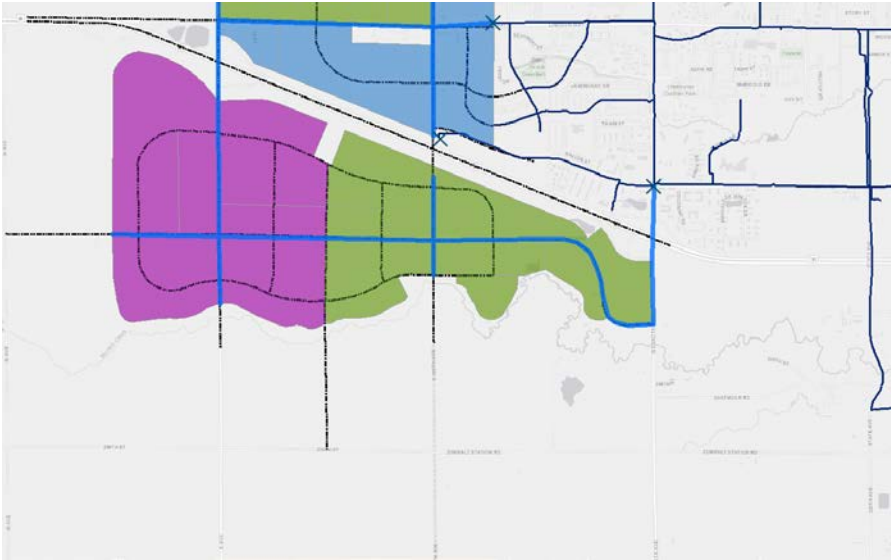
South Growth Area





| | Tier 1 <div></div> | Tier 2 <div></div> | Tier 3 <div></div> |
|----------------|--|--|--|
| Storm | New storm sewer with street extensions Maintain drainage way between US 69 and 550 th Ave. | New storm sewer with street extensions | New storm sewer with street extensions |
| Transportation | Extend 4-lane divided Duff Avenue to Tier 1 Growth area (\$16M) | Widen Duff Ave to 6-lanes from S 16 th Street to Airport Road (\$6M) Reconstruct US 30 / Duff Ave Interchange (\$18M) Consider extension of Grand Avenue to Airport Road to relieve Duff Avenue congestion between Airport Road and South 16th St (\$16M) | Extend 6-lane Duff Ave to approximately Jewel Drive (~1 mile of 6-lane) (\$12M) Widen County E57 as 3-lane roadway and extend to 260 th Street (\$18M) Add I-35 / E57 (260 th Street) Interchange Ramps (\$4M) |
| Public Safety | Good coverage due to existing Station 3 | | |

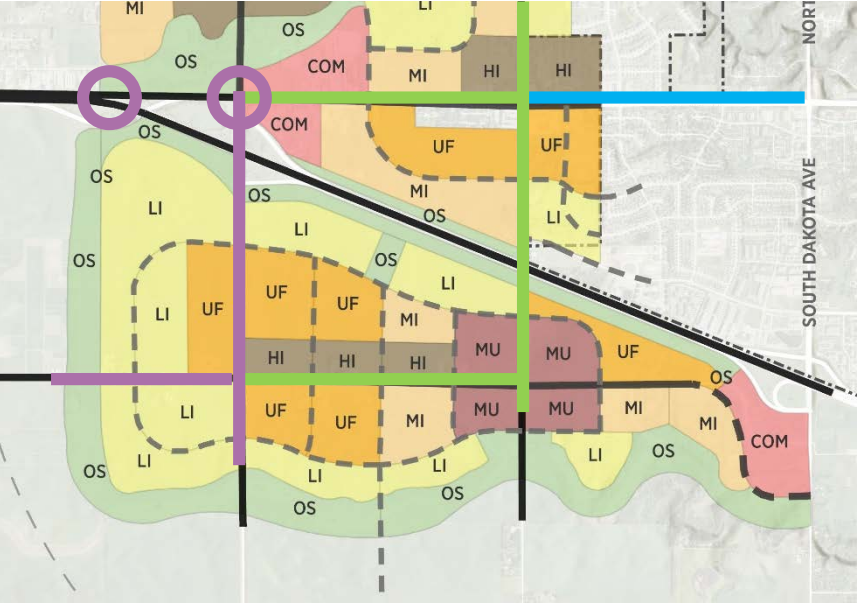




Southwest Growth Area



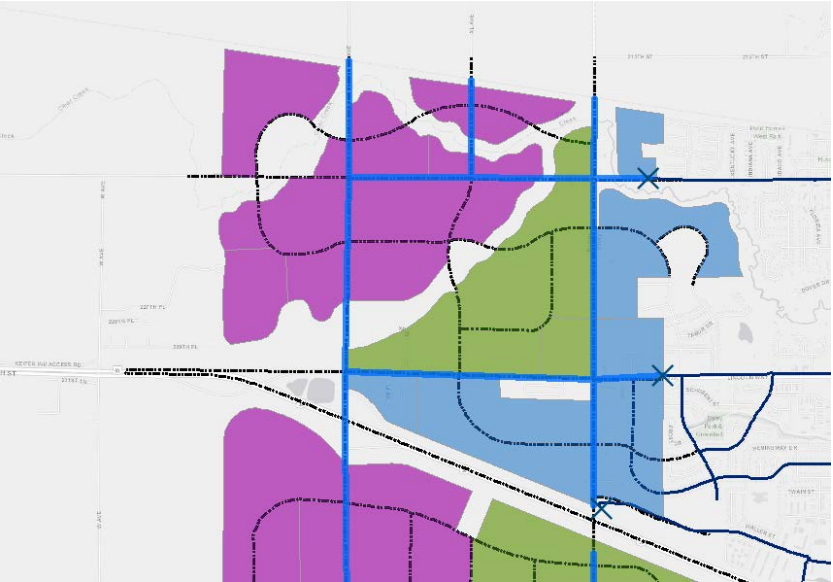
| | Tier 2  | Tier 3  |
|----------|---|--|
| Water | Distribution mains throughout Tier 2. (\$2.6M) | Distribution mains throughout Tier 3. (\$1.8M) Great pressure and service due to proximity to MAC Tank. |
| Sanitary | Requires 7,400' sewer extension into Tier 2 to connect to existing system along Worrell Creek. (\$2.8M) Collection mains throughout Tier 2. (\$6.3M) | Collection mains throughout Tier 3. (\$4.8M) Does not create capacity concerns. |




Southwest Growth Area



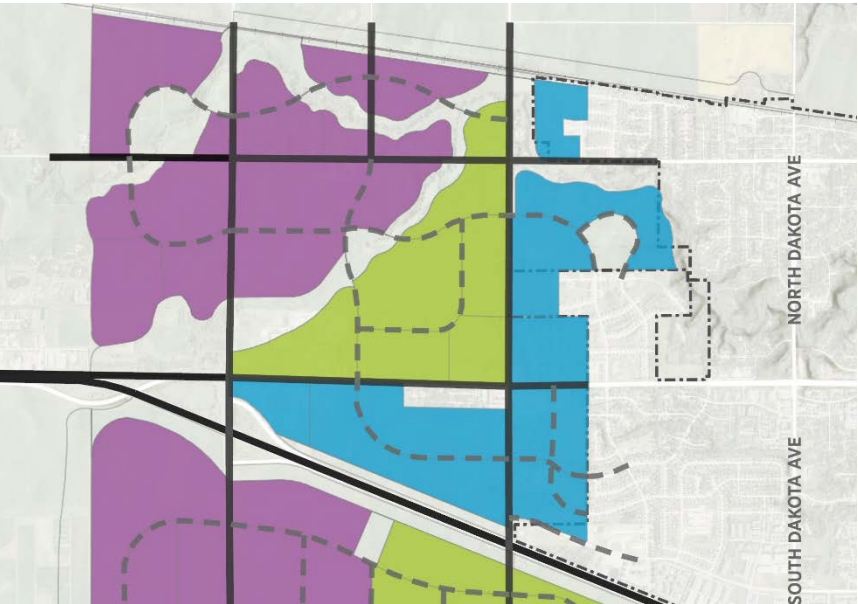
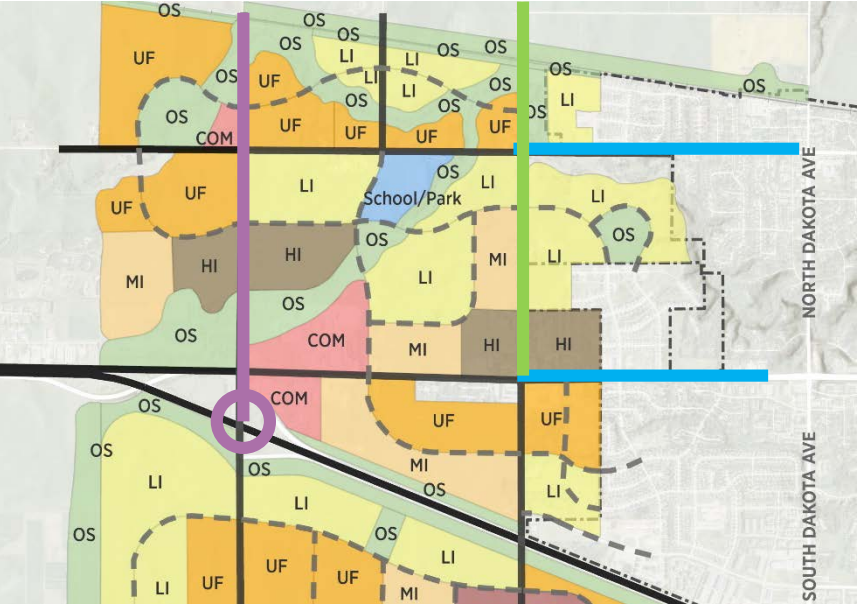
| | Tier 2  | Tier 3  |
|----------------|--|--|
| Storm | <p>Maintain Worrell Creek drainage way</p> <p>New storm sewers for street conversions</p> | <p>Maintain Worrell Creek drainage way</p> <p>New storm sewers for street conversions</p> |
| Transportation | <p>3-lane urban conversion of Y Avenue and 240th Street in Tier 2, maintaining existing Highway 30 overpass (\$9M)</p> <p>Turn lanes and improved intersection control at US 30/Lincoln Way/X Ave intersections (\$3M)</p> | <p>3-lane urban conversion of X Avenue and 240th Street in Tier 3 (\$15M)</p> <p>Reconstruct US 30 / Lincoln Way and US 30 / X Ave interchanges (\$20M)</p> |
| Public Safety | No additional station needed with relocation of Station 2 | |




West Growth Area



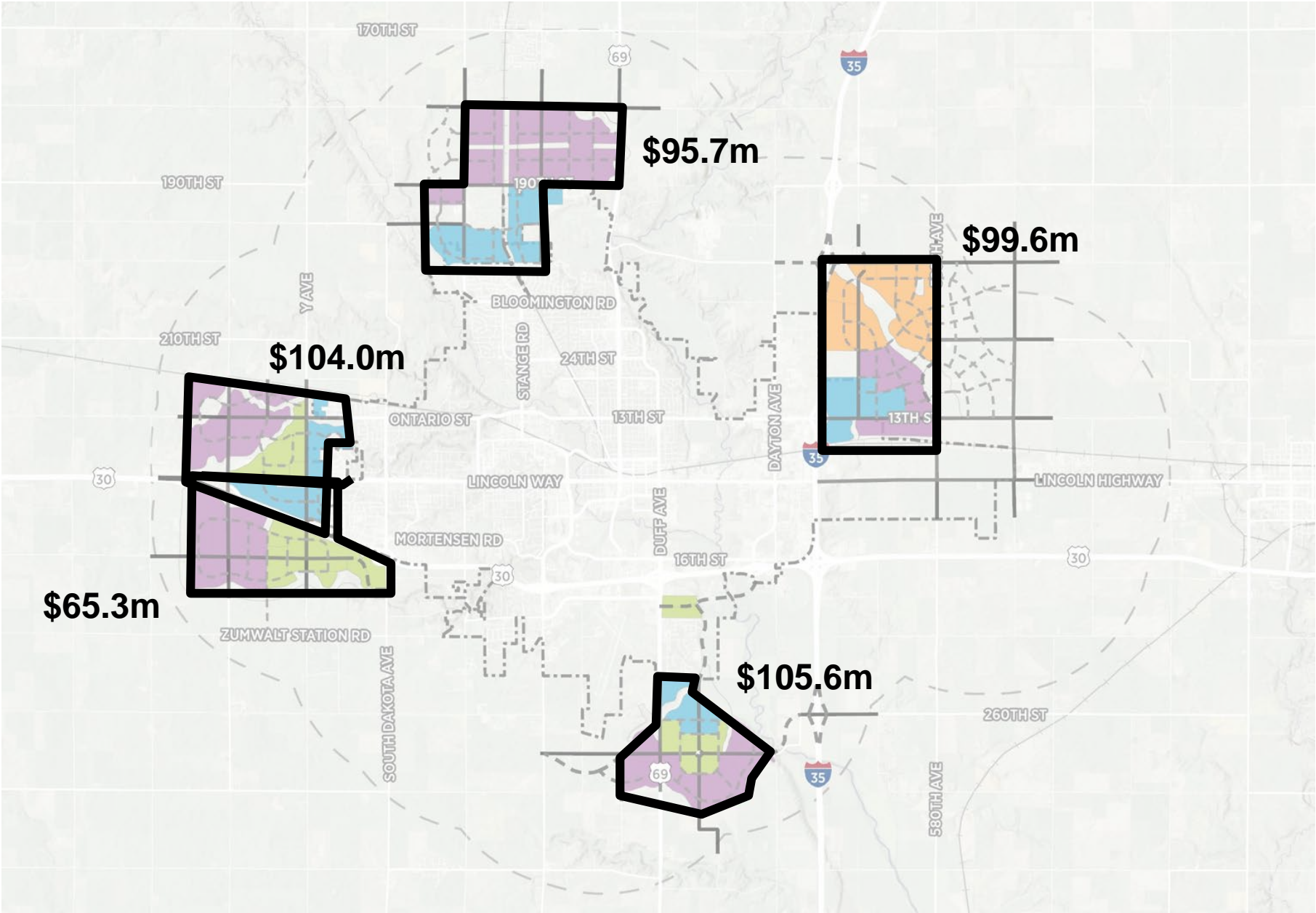
| | Tier 1  | Tiers 2 and 3   |
|----------|--|---|
| Water | Distribution mains throughout Tier 1. (\$1.0M) | Distribution mains throughout Tier 2. (\$2.1M) Distribution mains throughout Tier 3. (\$2.6M) Great pressure and service due to proximity to MAC Tank. |
| Sanitary | Collection mains throughout Tier 1. (\$4.5M) Current project to address I/I concerns in downstream of Munn Woods. | Collection mains throughout Tier 2. (\$3.4M) Collection mains throughout Tier 3. (\$5.4M) Capacity concerns may be address with these improvements, at current conditions the additional loading will cause surcharge conditions. |

West Growth Area



| | Tier 1  | Tier 2  | Tier 3  |
|----------------|---|--|--|
| Storm | <p>Maintain drainage way and wetlands east of Y Avenue</p> <p>New storm sewer with street extensions</p> | <p>Maintain drainage way between Y Avenue and X Avenue</p> <p>New storm sewer for street widening and extensions</p> | <p>Maintain drainage way north of Ontario Street</p> <p>New storm sewer for street widening and extensions</p> |
| Transportation | <p>Extend 4-lane divided Lincoln Way west to Tier 1 Growth area (\$8M)</p> <p>Extend 3-lane Ontario west to Tier 1 Growth area (\$6M)</p> | <p>Widen Y Avenue to 3-lanes from Ontario to Tier 2 Growth area south boundary (south of 240th St) (\$12M)</p> <p>Widen 240th Street to 3-lanes through Tier 2 Growth Area (~1.5 miles) (\$9M)</p> <p>Extend 4-lane divided Lincoln Way west to Tier 2 Growth area (\$16M)</p> | <p>Extend 4-lane divided Lincoln Way west to Tier 3 Growth area (\$2M)</p> <p>Widen X Avenue to 4-lanes through Tier 3 Growth Area (\$12M)</p> <p>Reconstruct US 30 / Lincoln Way and US 30 / X Ave interchanges (\$20M)</p> |
| Public Safety | | No additional station needed with relocation of Station 2 | |

For Comparison: All 2040 Growth in One Center



Infrastructure Cost Comparison of Scenarios by Infrastructure

| | North | East | South | Southwest | West |
|----------------|---------|--------|---------|-----------|---------|
| Water | \$10.8 | \$8.5 | \$6.8 | \$4.4 | \$5.7 |
| Sanitary | \$11.9 | \$32.1 | \$8.8 | \$13.9 | \$13.3 |
| Transportation | \$73.0 | \$59.0 | \$90.0 | \$47.0 | \$85.0 |
| Fire Station | \$6.0 | | | | |
| Total | \$101.7 | \$99.6 | \$105.6 | \$65.3 | \$104.0 |

Note: Costs in millions 2019.



Infrastructure Cost Comparison by Tier

| Area | Tier 1 | Tier 2 | Tier 3 | Tier 4 | TOTAL |
|-----------|---------|----------|----------|----------|----------|
| North | \$ 16.1 | \$ 4.0 | \$ 81.6 | | \$ 95.7 |
| East | \$ 10.6 | | \$ 72.0 | \$ 17.0 | \$ 99.6 |
| South | \$ 20.3 | \$ 46.1 | \$ 39.2 | | \$ 105.6 |
| Southwest | | \$ 23.7 | \$ 41.6 | | \$ 65.3 |
| West | \$ 19.5 | \$ 42.5 | \$ 42.0 | | \$ 104.0 |
| TOTAL | \$ 66.5 | \$ 116.3 | \$ 276.4 | \$ 17.00 | \$ 470.2 |

Note: Costs in millions 2019.



Traffic Modeling Outcomes

| Area | Scenario | Total Population | Total Households | Change from 2040 Baseline | | Vehicle Miles Traveled (VMT) | Vehicle Hours Traveled (VHT) | Total System Delay | Daily VMT per Person | Daily VHT per Person | Daily Delay per Person (Minutes) |
|-------|---|------------------|------------------|---------------------------|------------|------------------------------|------------------------------|--------------------|----------------------|----------------------|----------------------------------|
| | | | | Households | Employment | | | | | | |
| North | Original 2040 | 85,100 | 32,250 | - | - | 1,666,949 | 38,970 | 1,713 | 19.59 | 0.46 | 1.21 |
| | 2040 Scenario 1 | 93,315 | 35,984 | 3,734 | 2,820 | 1,781,491 | 42,752 | 2,660 | 19.09 | 0.46 | 1.71 |
| | 2040 Scenario 2 | 97,328 | 37,808 | 5,558 | 3,030 | 1,795,314 | 43,464 | 3,253 | 18.45 | 0.45 | 2.01 |
| South | 2040 Scenario 3 (no I-35 Interchange) | 97,913 | 38,074 | 5,824 | 2,850 | 1,758,245 | 45,108 | 5,698 | 17.96 | 0.46 | 3.49 |
| | 2040 Scenario 3 (with I-35 Interchange) | 97,913 | 38,074 | 5,824 | 2,850 | 1,818,962 | 43,153 | 2,896 | 18.58 | 0.44 | 1.77 |
| West | 2040 Scenario 4 | 99,543 | 38,815 | 6,565 | 3,315 | 1,841,714 | 43,221 | 2,397 | 18.50 | 0.43 | 1.44 |

Note: Addresses travel on primary streets that are part of the Transportation Model network, does not include local streets

Scenario 4 is a compilation of West and Southwest as one scenario



Public Feedback-Online Commenting Tool

North

- Concern about traffic congestion and access to highways.
- Already growing towards the north.
- Like greenway connections.
- Concern on influence to watersheds/ wetlands/ erosion/ farmland/ prairie.
- Not Ames School District

East

- Comments for and against growth in this area.
- Too far away from existing city
- Like the village concept. Also heard that it was too suburban.
- Good access to interstate.
- Concern about environmental impacts.

South

- Mostly favorable responses.
- Positioned well to commute to Des Moines and Ankeny.
- Concern about parallel road to Duff and adjacency to greenspace.
- Desire to retain nursery.
- Concern about proximity to airport.
- Concern about connection to interstate and environment.

Southwest

- Comments for and against growth in this area.
- Concern about proximity to ISU farms.
- Concern about crossing over to Boone County.
- Good access to highway.

West

- Generally favorable responses.
- Concern about crossing over to Boone County.
- Good access to highway.

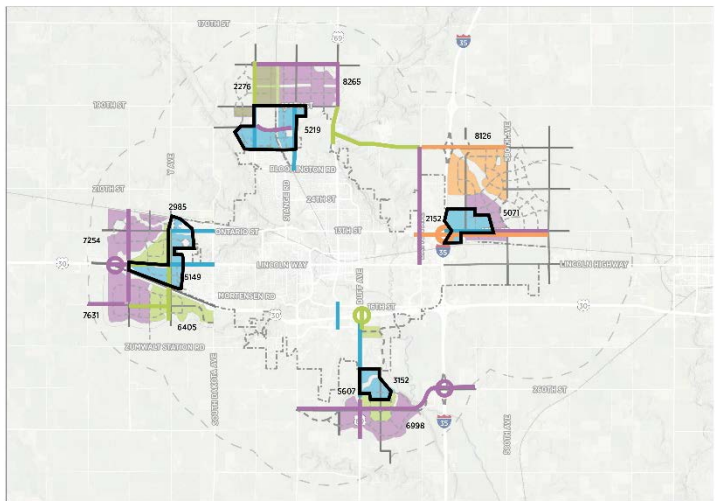


Tier Options

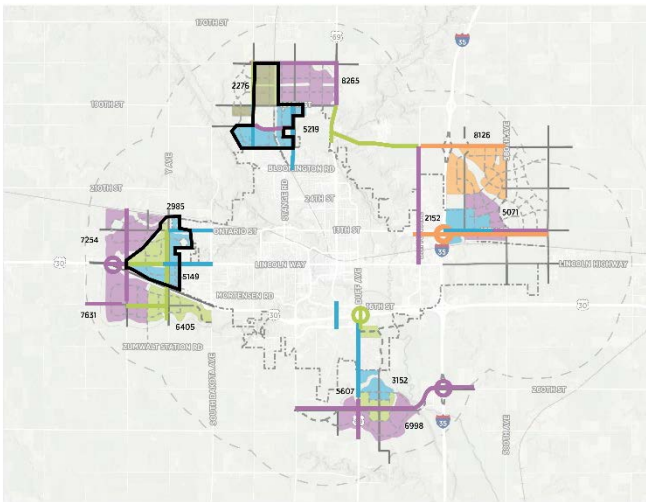


1. Review of different combinations of Tiers
 - a. Based upon modeling analysis of each scenario
 - b. Calculated population served based upon original land use scenarios
2. Note that for multi-directional growth, a fourth fire station will be required (\$6 million) and would be added to estimated costs for each option

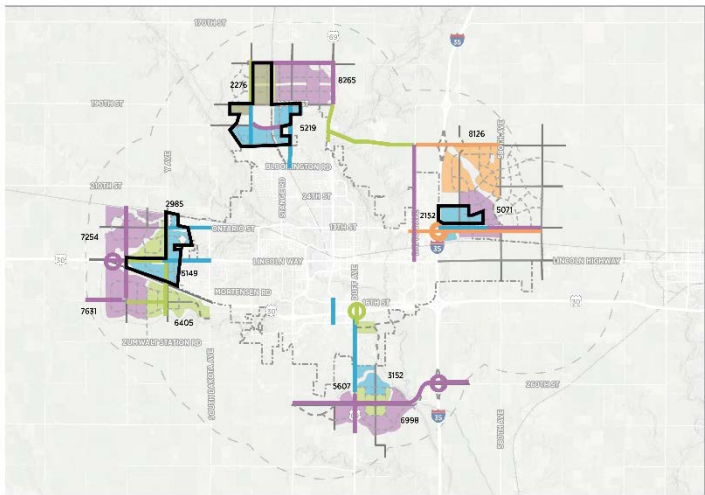
Tier Combination Options



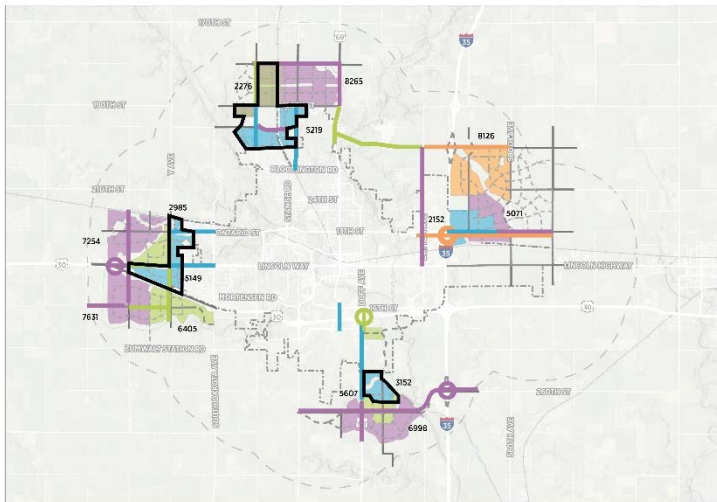
Population Yield: 15,673



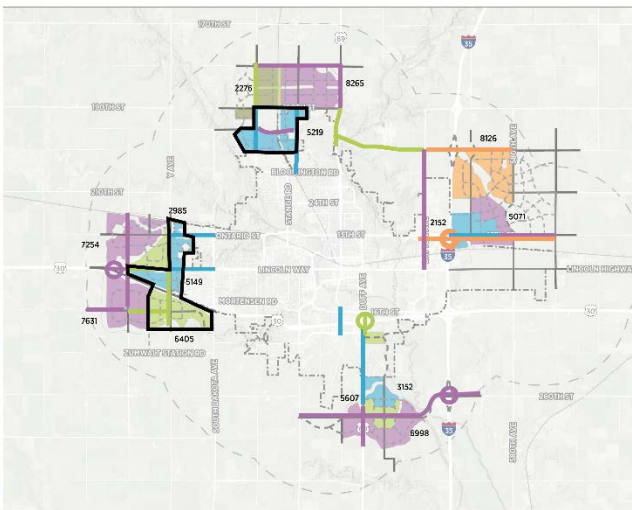
Population Yield: 15,629



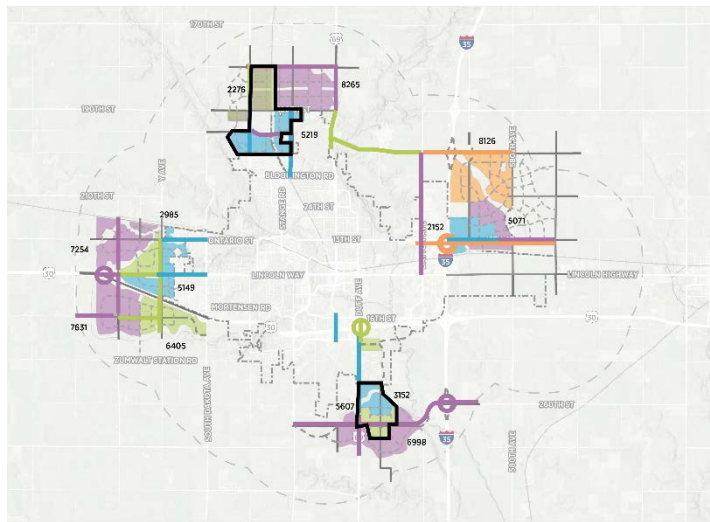
Population Yield: 14,796



Population Yield: 15,796



Population Yield: 16,773

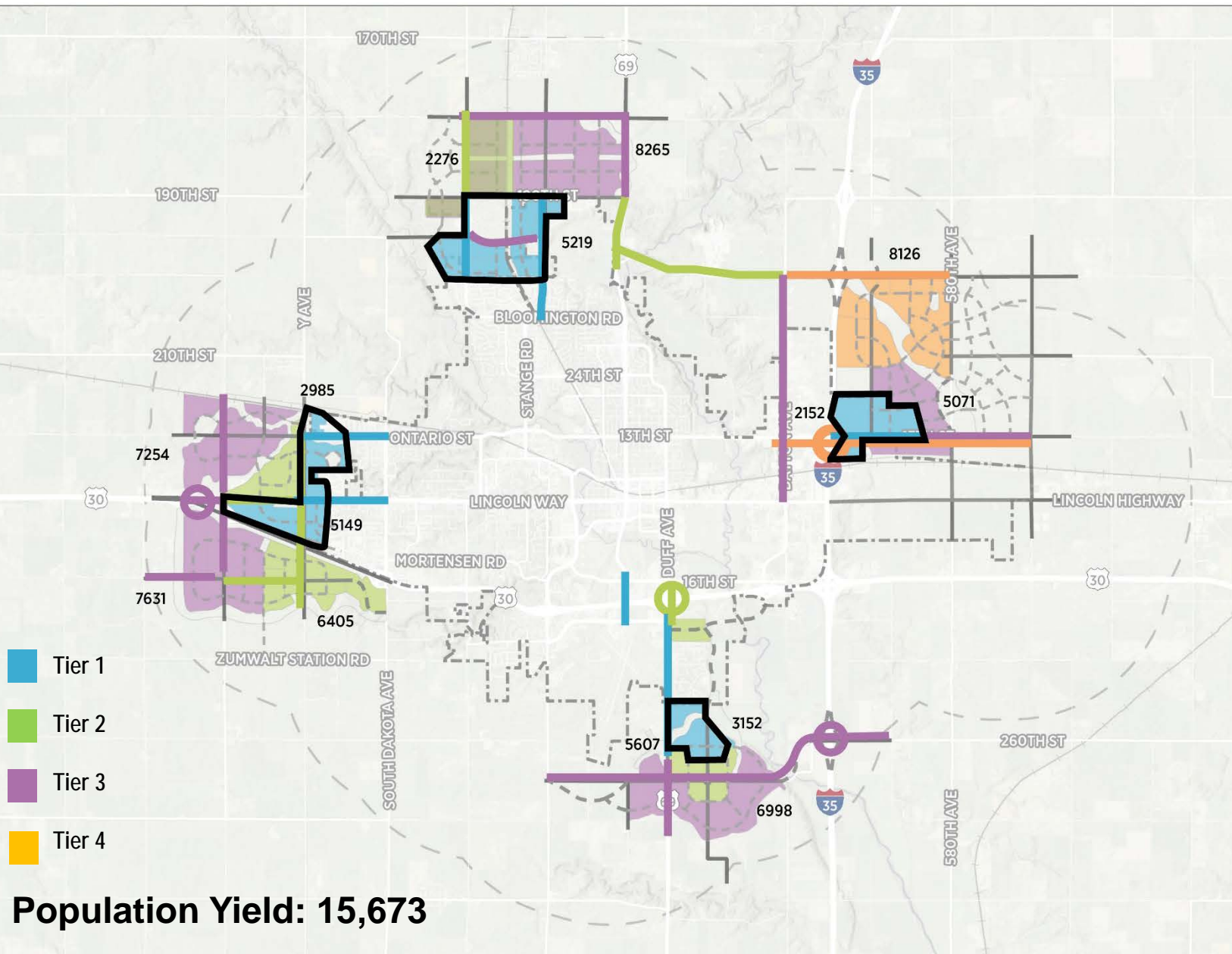


Population Yield: 16,254

- Tier 1
- Tier 2
- Tier 3
- Tier 4

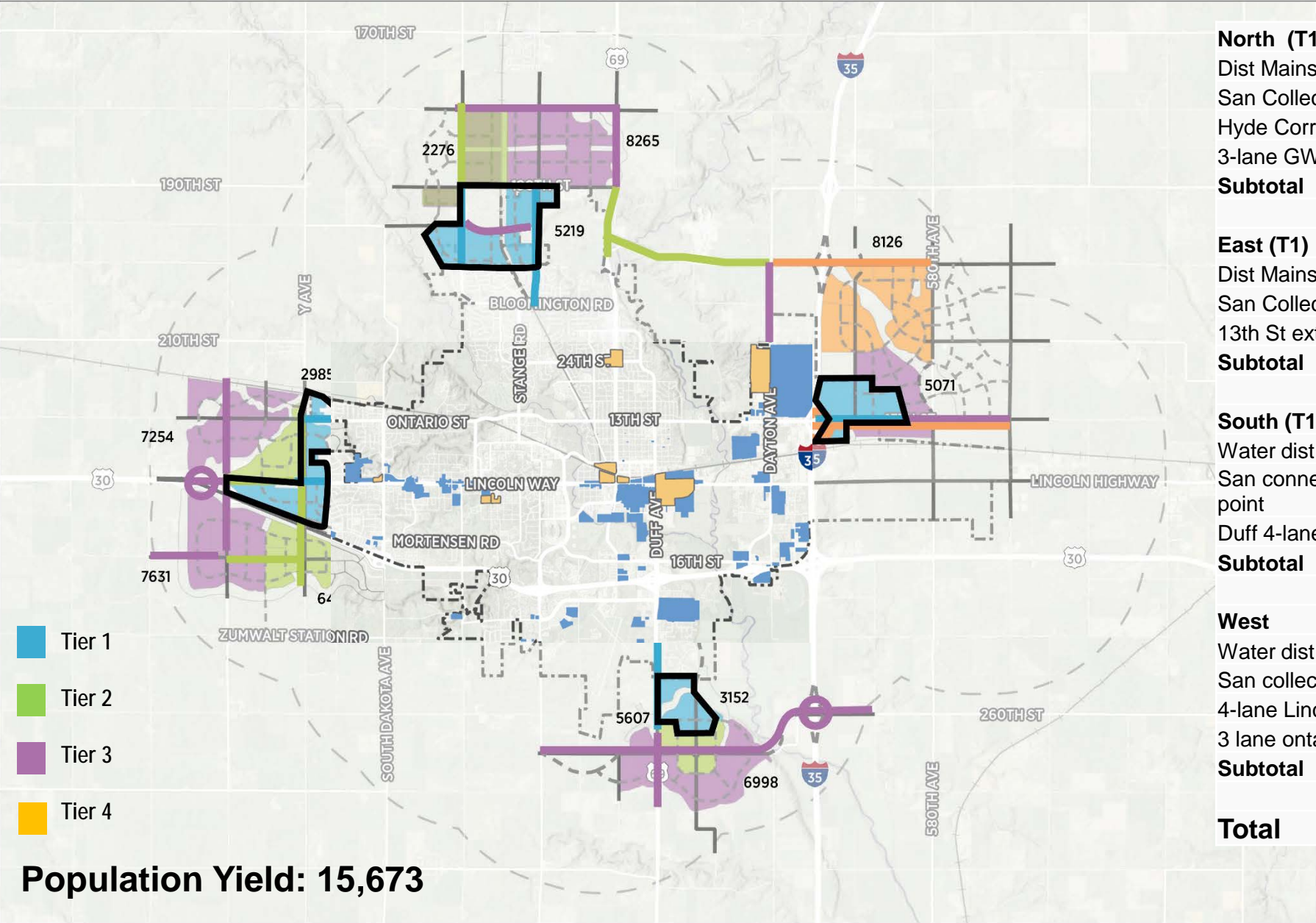


Scenario Evaluation. S1: Multi-Directional Tier 1



| | |
|--|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| East (T1) | |
| Dist Mains | \$ 0.5 |
| San Collection Mains | \$ 2.1 |
| 13th St extension | \$ 8.0 |
| Subtotal | \$10.6 |
| South (T1) | |
| Water dist mains | \$1.1 |
| San connection mains a nd connection point | \$3.2 |
| Duff 4-lane extension | \$16.0 |
| Subtotal | \$28.3 |
| West | |
| Water dist mains | 1 |
| San collection mains | 4.5 |
| 4-lane Lincolnway | 8 |
| 3 lane ontario | 6 |
| Subtotal | 19.5 |
| Total | \$60.5 |

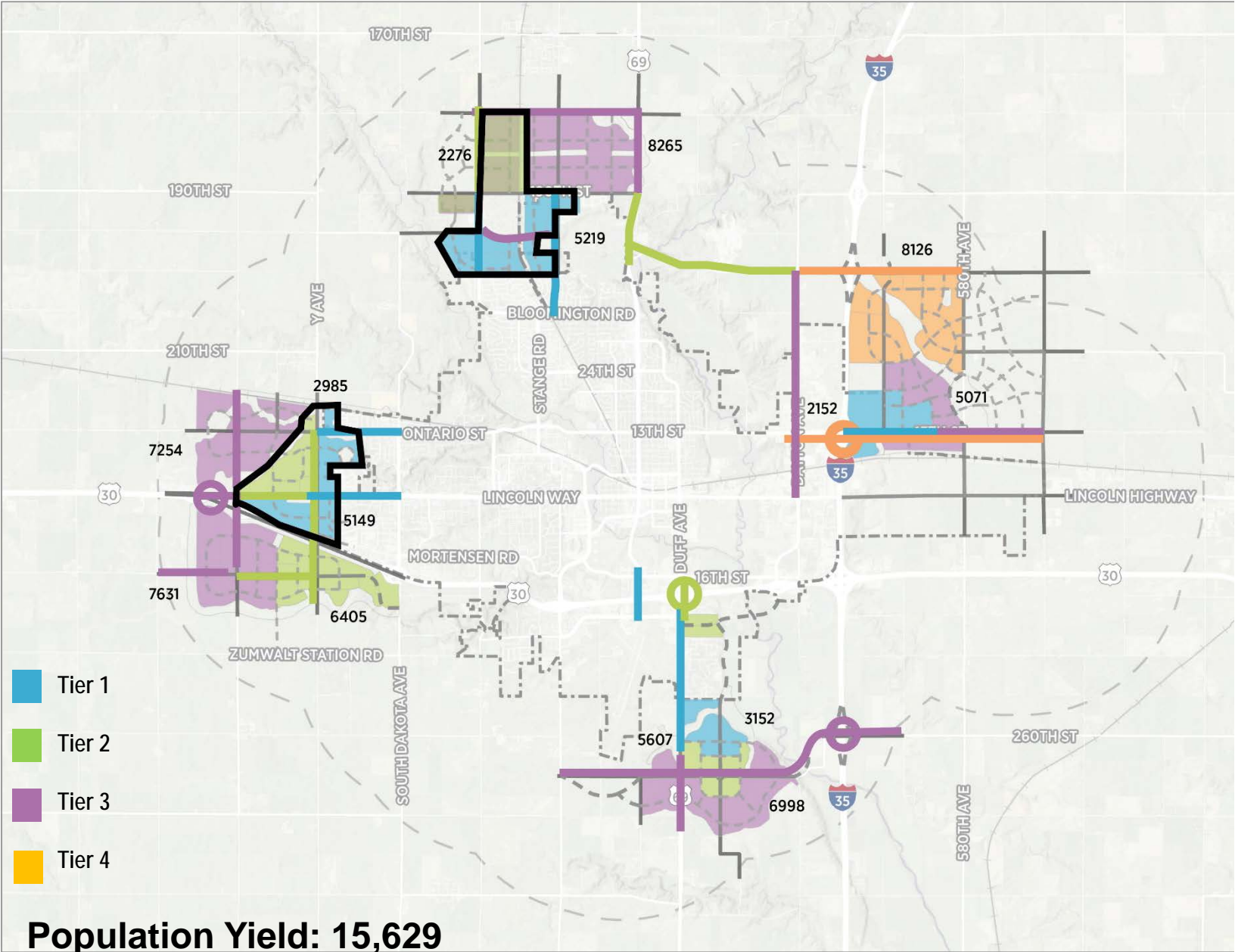
Scenario Evaluation. S1: Multi-Directional Tier 1 with Potential Infill Areas



| | |
|---|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| East (T1) | |
| Dist Mains | \$ 0.5 |
| San Collection Mains | \$ 2.1 |
| 13th St extension | \$ 8.0 |
| Subtotal | \$10.6 |
| South (T1) | |
| Water dist mains | \$1.1 |
| San connection mains and connection point | \$3.2 |
| Duff 4-lane extension | \$16.0 |
| Subtotal | \$28.3 |
| West | |
| Water dist mains | 1 |
| San collection mains | 4.5 |
| 4-lane Lincolnway | 8 |
| 3 lane ontario | 6 |
| Subtotal | 19.5 |
| Total | \$60.5 |



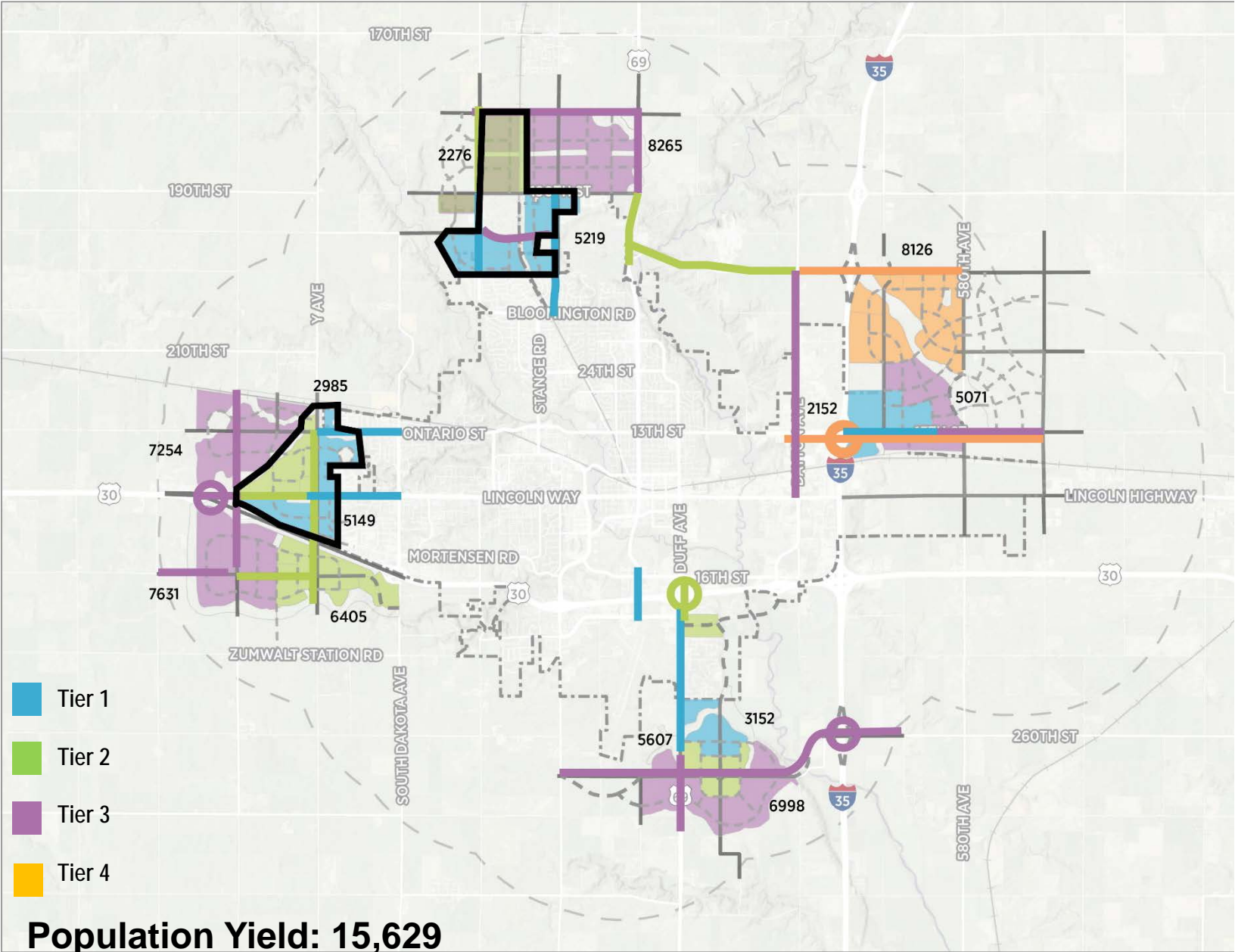
Scenario Evaluation. S2: North + West



| | |
|-------------------------|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| West (T1+T2) | |
| Dist Mains | \$ 3.1 |
| San Collection Mains | \$ 7.9 |
| Lincolnway T1 ext | \$ 8.0 |
| Ontario | \$ 6.0 |
| Y Ave | \$12.0 |
| 240th widening | \$ 9.0 |
| Lincolnway T2 extension | \$16.0 |
| Subtotal | \$62.0 |
| North T2 | |
| Dist mains | \$ 1.5 |
| Water tower | \$ 4.0 |
| San Collection Mains | \$ 2.5 |
| Subtotal | \$ 8.0 |
| Total | \$80.1 |



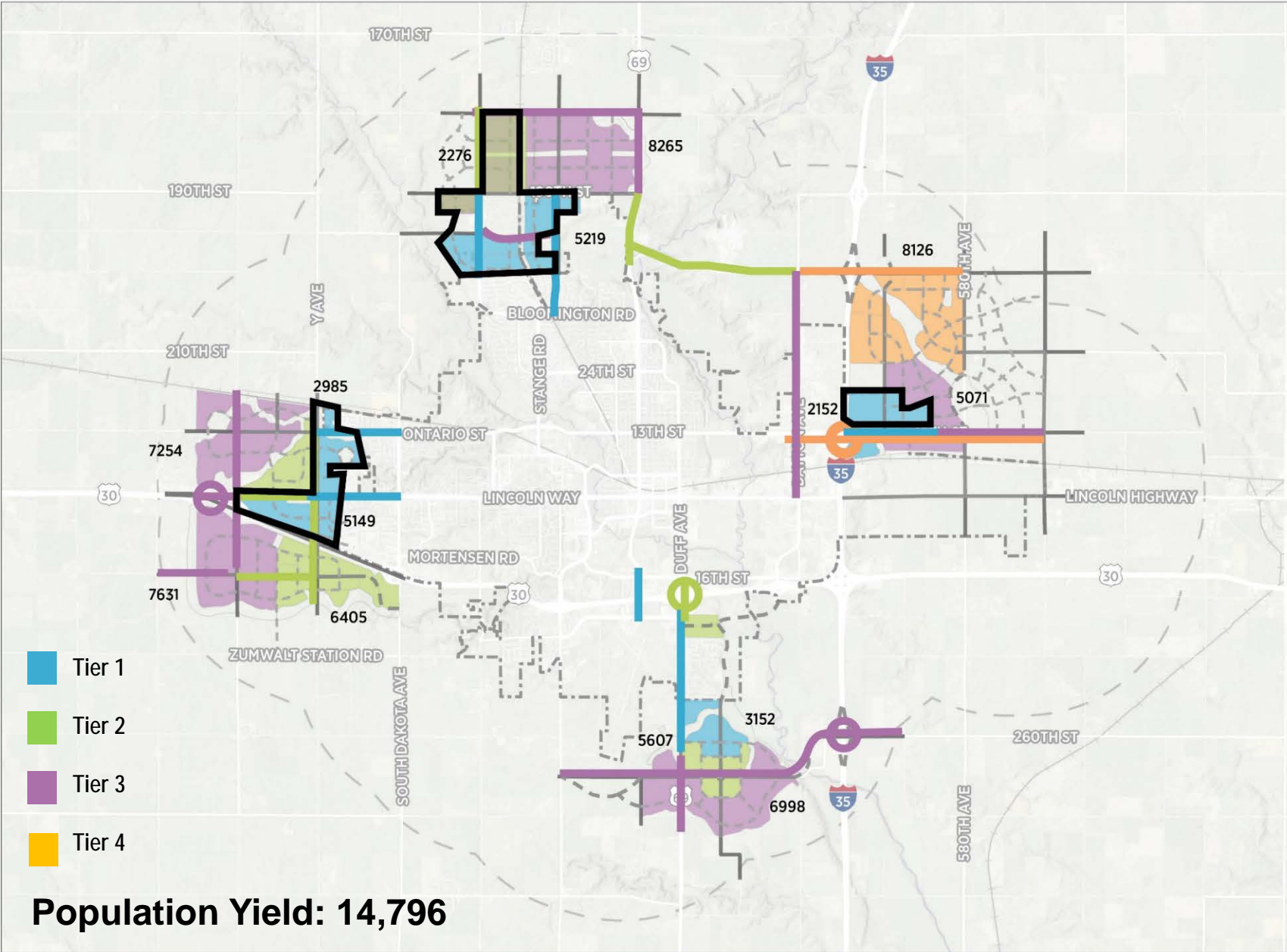
Scenario Evaluation. S2: North + West



| | |
|-------------------------|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| West (T1+T2) | |
| Dist Mains | \$ 3.1 |
| San Collection Mains | \$ 7.9 |
| Lincolnway T1 ext | \$ 8.0 |
| Ontario | \$ 6.0 |
| Y Ave | \$12.0 |
| 240th widening | \$ 9.0 |
| Lincolnway T2 extension | \$16.0 |
| Subtotal | \$62.0 |
| North T2 | |
| Dist mains | \$ 1.5 |
| Water tower | \$ 4.0 |
| San Collection Mains | \$ 2.5 |
| Subtotal | \$ 8.0 |
| Total | \$80.1 |



Scenario Evaluation. S3: North + West + East

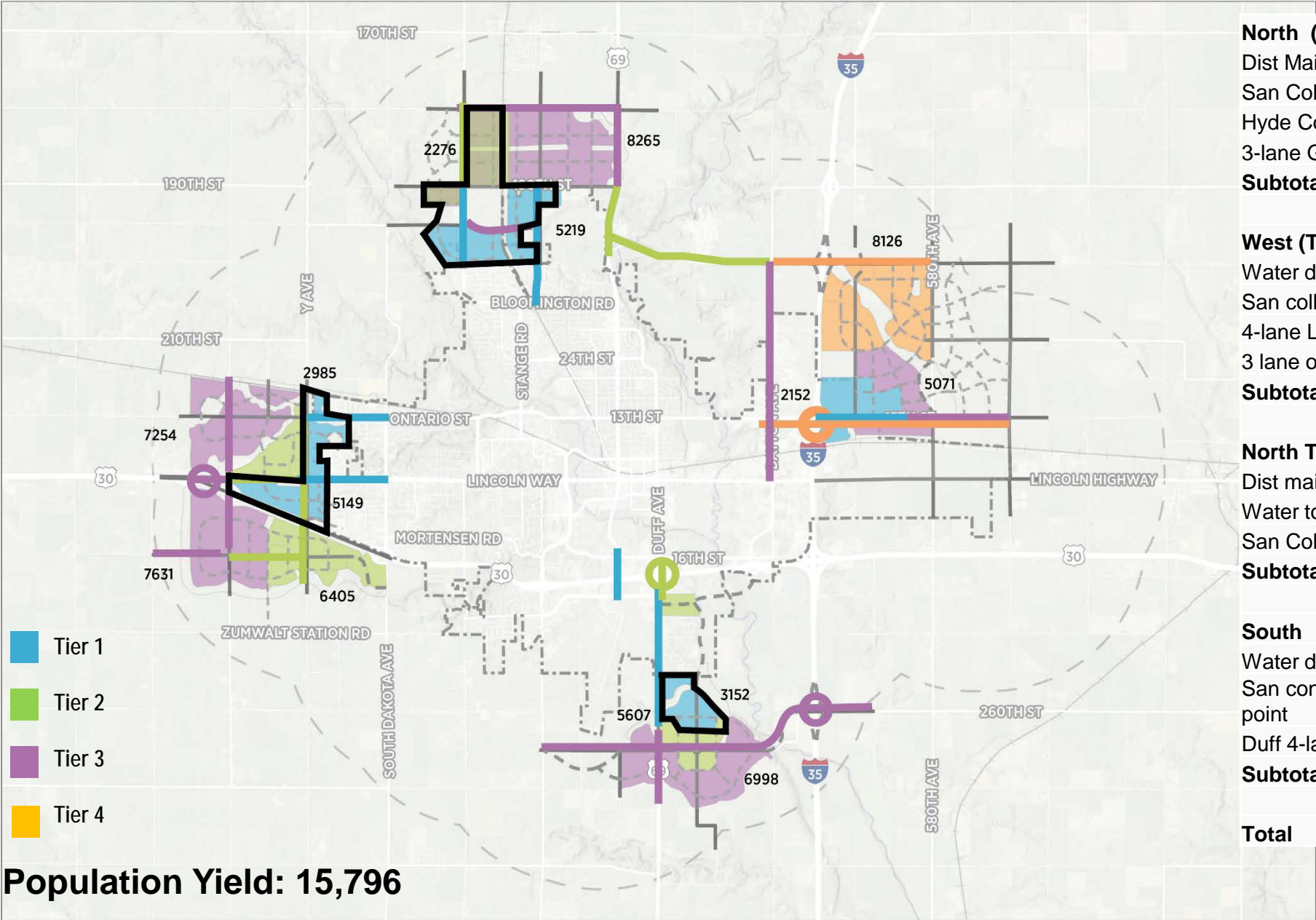


Population Yield: 14,796

| | |
|-----------------------|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| West (T1) | |
| Water dist mains | \$ 1.0 |
| San collection mains | \$ 4.5 |
| 4-lane Lincolnway | \$ 8.0 |
| 3 lane ontario | \$ 6.0 |
| Subtotal | 19.5 |
| North T2 | |
| Dist mains | \$ 1.5 |
| Water tower | \$ 4.0 |
| San Collection Mains | \$ 2.5 |
| Subtotal | \$8.0 |
| East | |
| Dist Mains | \$ 0.5 |
| San Collection Mains | \$ 2.1 |
| 13th St extension | \$ 8.0 |
| Subtotal | \$10.6 |
| Total | \$48.2 |



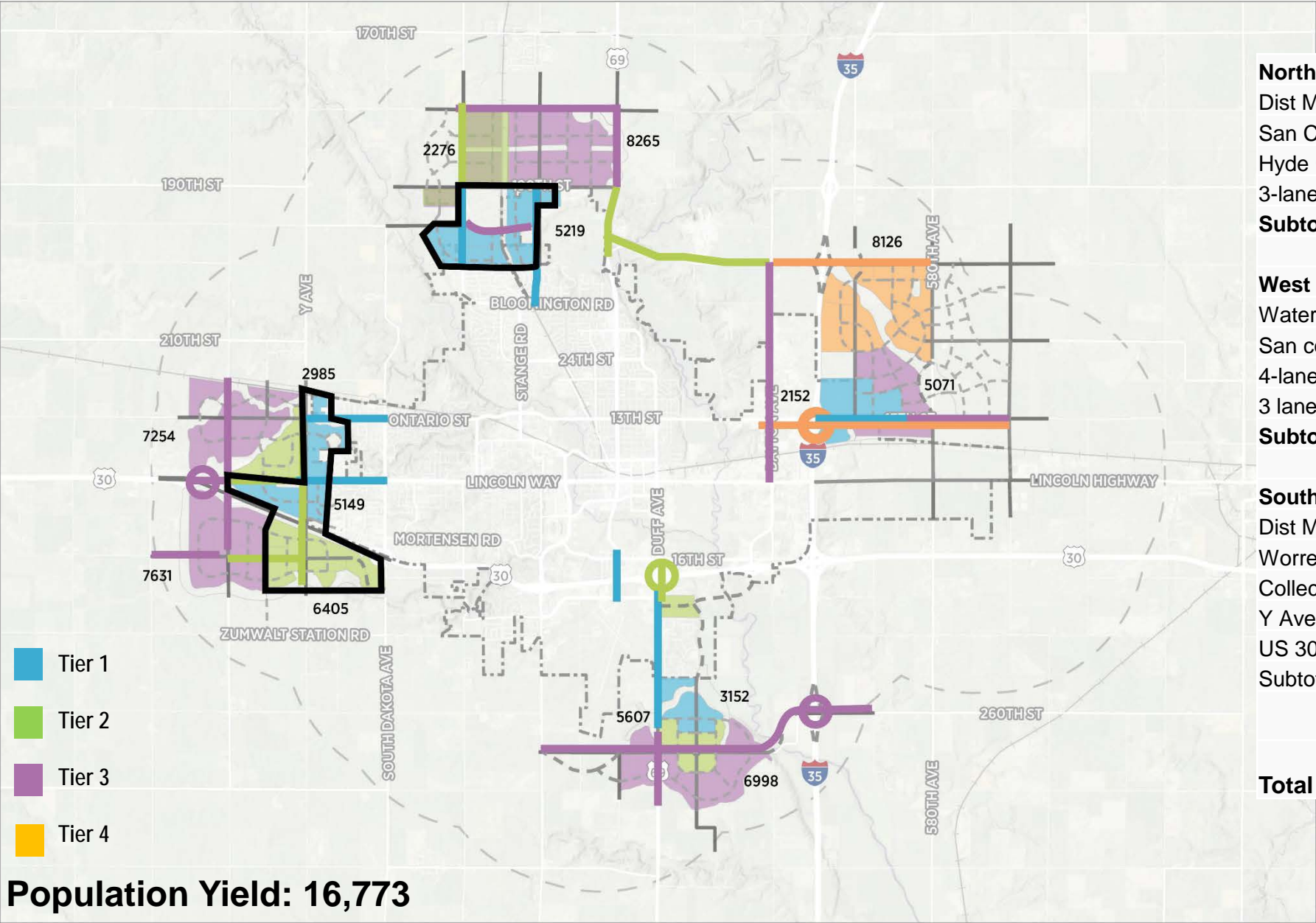
Scenario Evaluation. S4: North + West + South



| | |
|---|---------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$10.1 |
| West (T1) | |
| Water dist mains | \$ 1.0 |
| San collection mains | \$ 4.5 |
| 4-lane Lincolnway | \$ 8.0 |
| 3 lane ontario | \$ 6.0 |
| Subtotal | 19.5 |
| North T2 | |
| Dist mains | \$ 1.5 |
| Water tower | \$ 4.0 |
| San Collection Mains | \$ 2.5 |
| Subtotal | \$8.0 |
| South | |
| Water dist mains | \$1.1 |
| San connection mains and connection point | \$3.2 |
| Duff 4-lane extension | \$16.0 |
| Subtotal | \$20.3 |
| Total | \$57.9 |



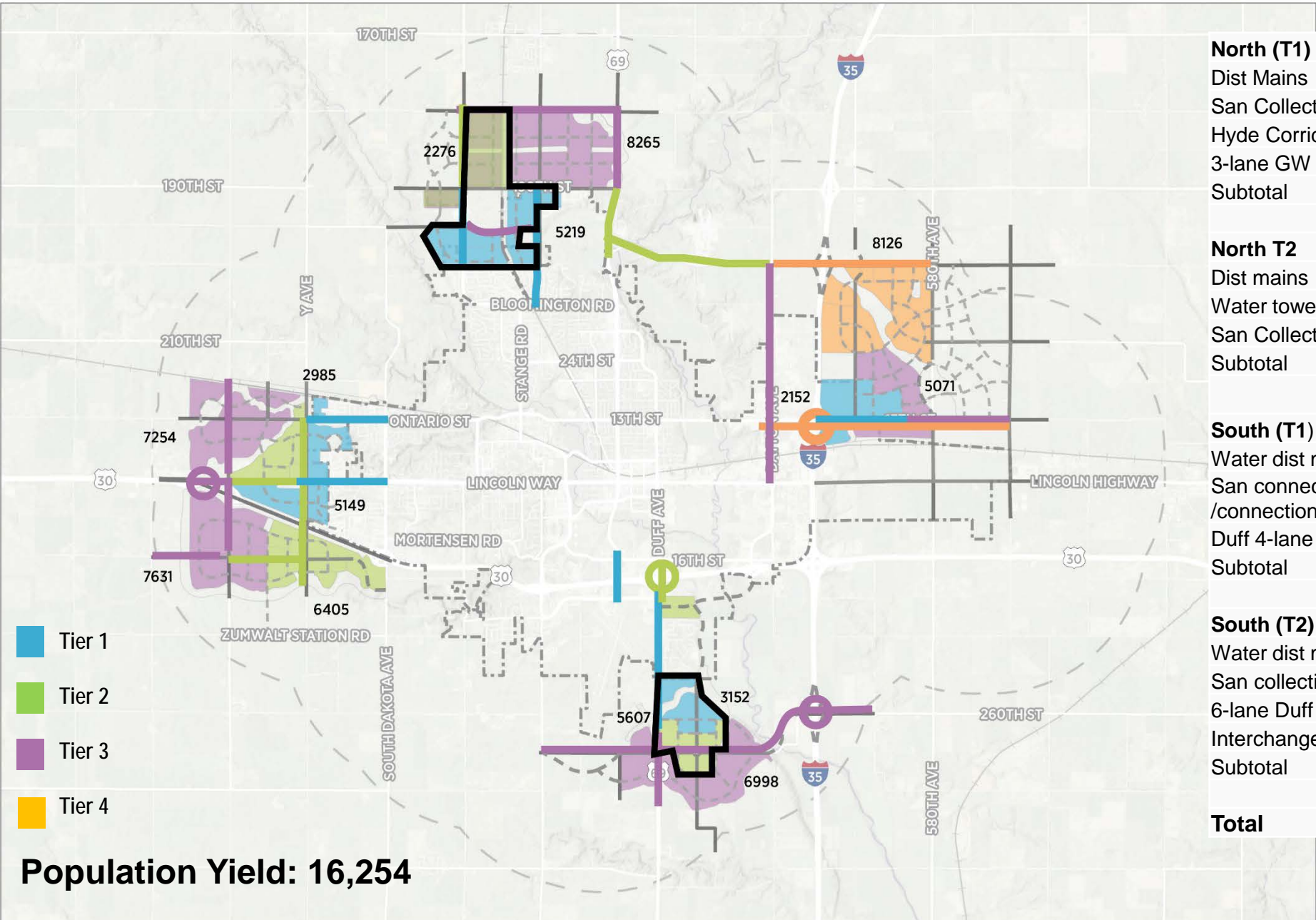
Scenario Evaluation. S5: North + Southwest



| | |
|-----------------------|----------------|
| North (T1) | |
| Dist Mains | \$ 1.0 |
| San Collection Mains | \$ 2.1 |
| Hyde Corridor Calming | \$ 1.0 |
| 3-lane GW Carver | \$ 6.0 |
| Subtotal | \$ 10.1 |
| West (T1) | |
| Water dist mains | \$ 1.0 |
| San collection mains | \$ 4.5 |
| 4-lane Lincolnway | \$ 8.0 |
| 3 lane ontario | \$ 6.0 |
| Subtotal | \$ 19.5 |
| Southwest T2 | |
| Dist Mains | \$ 2.6 |
| Worrell Crk San ext | \$ 2.8 |
| Collection mains | \$ 6.3 |
| Y Ave conversion | \$ 15.0 |
| US 30 intersections | \$ 3.0 |
| Subtotal | \$ 29.7 |
| Total | \$ 59.3 |



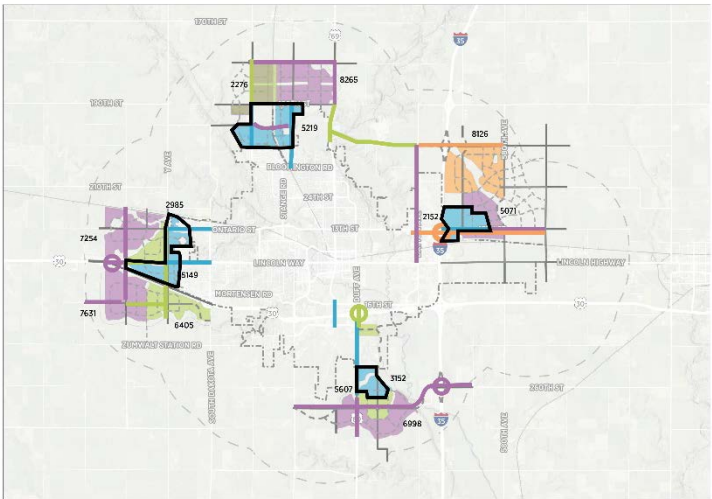
Scenario Evaluation. S6: North + South



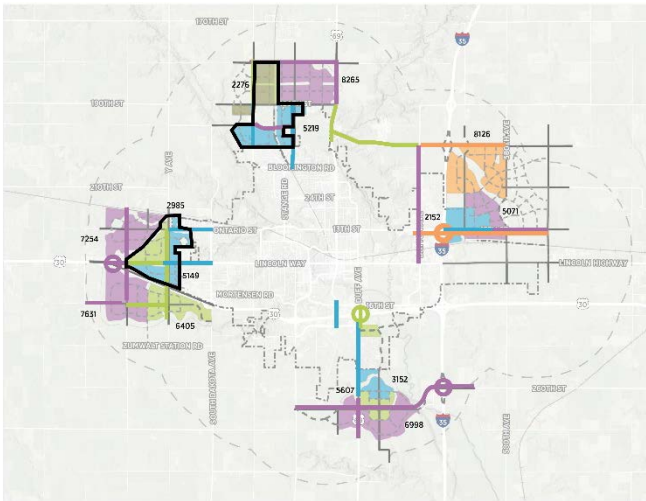
| | | |
|--|--|---------------|
| North (T1) | | |
| Dist Mains | | \$ 1.0 |
| San Collection Mains | | \$ 2.1 |
| Hyde Corridor Calming | | \$ 1.0 |
| 3-lane GW Carver | | \$ 6.0 |
| Subtotal | | \$10.1 |
| North T2 | | |
| Dist mains | | \$ 1.5 |
| Water tower | | \$ 4.0 |
| San Collection Mains | | \$ 2.5 |
| Subtotal | | \$8.0 |
| South (T1) | | |
| Water dist mains | | \$ 1.1 |
| San connection mains /connection point | | \$ 3.2 |
| Duff 4-lane extension | | \$16.0 |
| Subtotal | | \$20.3 |
| South (T2) | | |
| Water dist mains | | \$ 3.8 |
| San collection mains | | \$ 2.3 |
| 6-lane Duff | | \$ 6.0 |
| Interchange | | \$18.0 |
| Subtotal | | \$30.1 |
| Total | | \$68.5 |



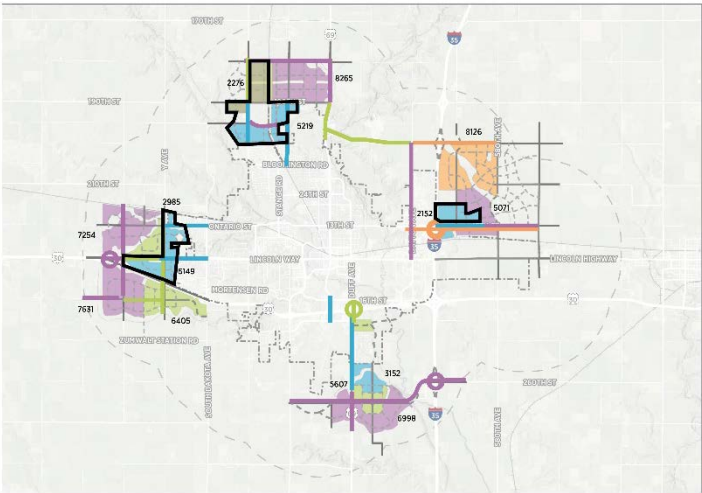
Recap of Tiers



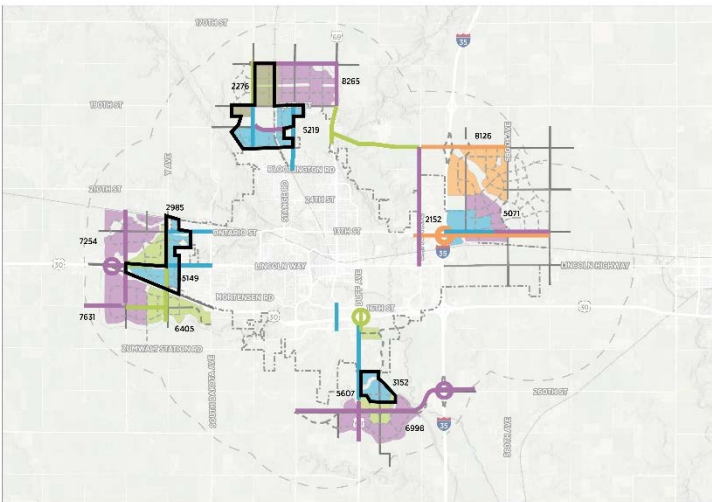
\$68.5m 15,673



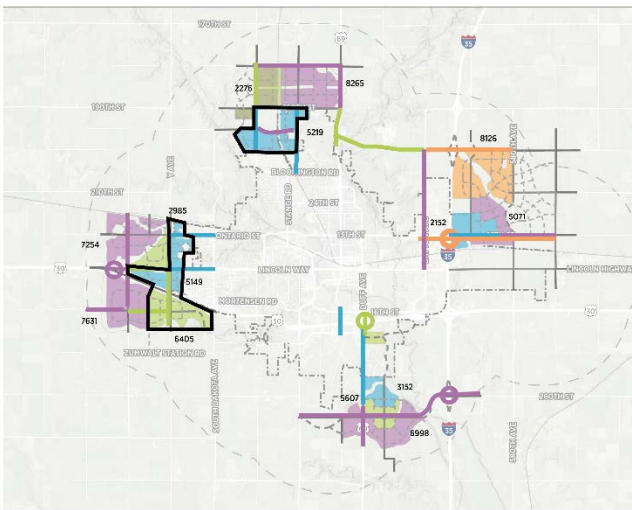
\$80.1m 15,629



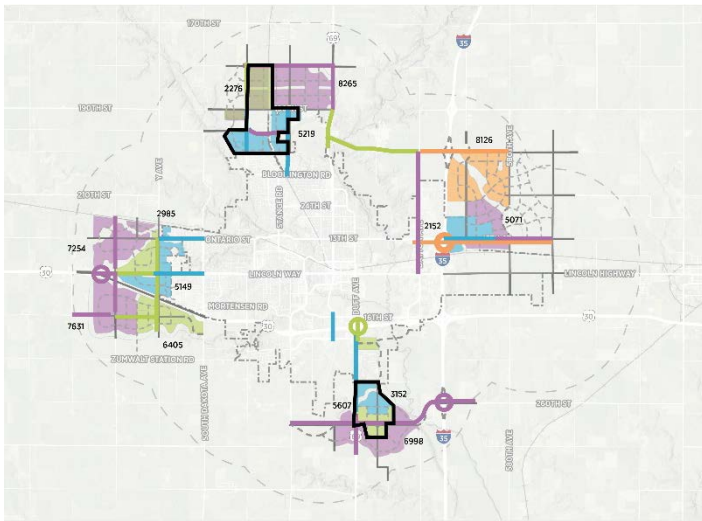
\$48.2m 14,796



\$65.9m 15,796



\$59.3m 16,773



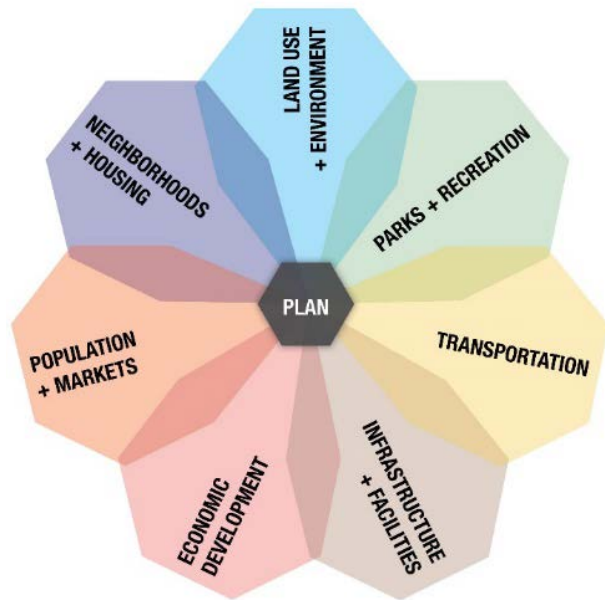
\$76.5m 16,254

- Tier 1
- Tier 2
- Tier 3
- Tier 4



Discussion and Next Steps

Summary



1. Ames has more than one direction to grow.
2. Include strategies that plan for both short- and long-term growth, including preserving future growth areas that are not selected initially.
3. The **lowest cost option** may not be the best option for the City's vision overall.
4. Preferences for individual areas, include regional access, marketability, sustainability, cost to serve, provision for long term growth solutions, infill, etc.
5. Updating the future land use map concept may need to **occur** to address the balance of housing and commercial needs with selected area.

Discussion and Next Steps

Next Steps

- Feedback on growth concepts for drafting a Preferred Land Use Map
- Land Use/Transportation Principles Feedback (Comments to staff, January 10th)
- Next Discussion Issues:
 - Future Land Use Map and designations
 - Housing, Neighborhoods, Sub-Areas-Vision and Principles



LIVE.
GROW.
BELONG.



City Council Workshop

December 19, 2019

