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TECHNICAL MEMORANDUM

Eagle is HOME, Transportation Chapter

DRAFT Task 1 Memorandum

Date: August 11, 2016 Project #: 20145.0
To: Nichoel Baird Spencer, AICP
CC: Comprehensive Plan Steering Committee
From: Nick Foster, AICP; Deanna Dupuy; and Laurence Lewis, AICP, LEED-AP

The City of Eagle is currently completing a thorough update of its Comprehensive Plan to reflect current conditions and a central theme – “Eagle is HOME.” This memo sets the stage for the development of the transportation chapter of the Comprehensive Plan. It includes preliminary thoughts on how vision and goals in the existing chapter could be updated to better fit this new theme. Then, it defines existing transportation conditions and the expected baseline future conditions. Finally, it concludes with an initial assessment of opportunities to implement the Comprehensive Plan’s theme through increased local connectivity.

EXISTING PLAN AUDIT

The existing transportation chapter of the City of Eagle Comprehensive Plan envisions a fully integrated, modern, and efficient transportation system. In order to serve future growth and development, the chapter emphasizes the need for Eagle’s transportation network to expand. The plan recognizes transportation expansion as the development of additional collector and connecting roads, the inclusion of dedicated multiuse pathways, and the establishment of viable public transit.

Within the “Eagle is HOME” framework, the City envisions an interconnected user-friendly system of roadways and pathways that balance the regional transportation needs with livability and the needs of the local user and non-motorized public. Specifically, the recommendations from the Comprehensive Plan Review Committee stress the community’s desire to focus on long term connectivity. The recommendations suggest as a guiding vision, that the chapter emphasize the development of the transportation network as colander rather than a funnel with multiple transportation options and access points within the City.

Many of the existing transportation chapter goals are consistent with the “Eagle is HOME” theme. However, there are several goals from the existing transportation chapter that have been accomplished, may no longer be applicable, or may not align with the “Eagle is HOME” theme. The following lists potential changes that should be considered for the individual goals with the update of

the transportation chapter. Attachment “A” provides a complete summary of the goals from the existing transportation chapter and corresponding review.

- *Consider modifying Roadway System Goals 4 and 5 to better match the theme of the Comprehensive Plan update.*
- *Consider removing Roadway System Goals 6 through 8 – These goals appear to have been covered by the Northwest Foothills Transportation Study and the adoption of the updated Ada County Highway District (ACHD) Master Street Map (MSM).*
- *Consider combining Roadway System Goal 9 with the Public Transit System goals and removing the reference to concurrency.*
- *Remove the reference in Roadway System Goal 10 to the SH 16 river crossing, which has recently been built.*
- *Consider combining Roadway System Goals 11 and 4.*
- *Consider combining Public Transit System Goals 2, 3, and 6.*

In addition, the broader “Eagle is HOME” theme focuses on the user’s experience within the transportation system and strategic of creation of access points. The previous transportation chapter appears to emphasize expansion of the transportation system as tool to accommodate growth. These two visions do not necessary contradict, but instead present an opportunity for the City of Eagle to be more specific and purposeful about the current goals, objectives, implementation strategies and how each contributes to the creation of a user-friendly and connected transportation system. Below is a list of potential opportunities to further enforce and support the desired theme in the updated Transportation Chapter:

Vision Opportunities

- Begin the chapter with the Eagle is HOME transportation vision statement:
 - “The City of Eagle’s transportation system will consist of a system of interconnected user-friendly roadways and pathways that balance the regional transportation needs with livability and the needs of the local user and non-motorized public.”
- Move the roadway classification section until later in the chapter. This section could also be used as a way to incorporate language that describes how each classification of roadway contributes to the “colander vs funnel” vision.
- Elaborate on the purpose of the transit system and how it will affect land use choices, provide opportunity for residents, and serve regional needs.

Goal Opportunities

- Clarify if the City’s intent is to speed the flow of traffic or to improve the safety and convenience of multi-modal transportation. If the intent is both, be specific about how the city will balance those, at times, conflicting goals.

- Make explicit how design choices, such as berms, landscaping, and medians contribute to a “user-friendly” transportation experience and why they are important to Eagle’s vision.
- Explain the desire to identify gaps in the existing bicycle network and how it relates to the current vision of the pathway system.
- Consider how and where rural character needs to be preserved and what this entails from a transportation standpoint (it is assumed that defining rural character will be part of the Land Use chapter).

Implementation Opportunities

- Update roadway priorities and provide clear criteria on how the City of Eagle will select roadway priorities in the future. It is in this section that the chapter can address recommendations about specific roadways.
- Include a section to address the recommendation that the City of Eagle begin budgeting for roadway improvements and how it intends to provide clear direction to ACHD.
- Address how the development process will affect the build out of the transportation system

THE TRANSPORTATION SYSTEM

The following sections describe what exists regarding transportation in Eagle, including what is on the ground today and what is currently planned for the future.

Existing Conditions

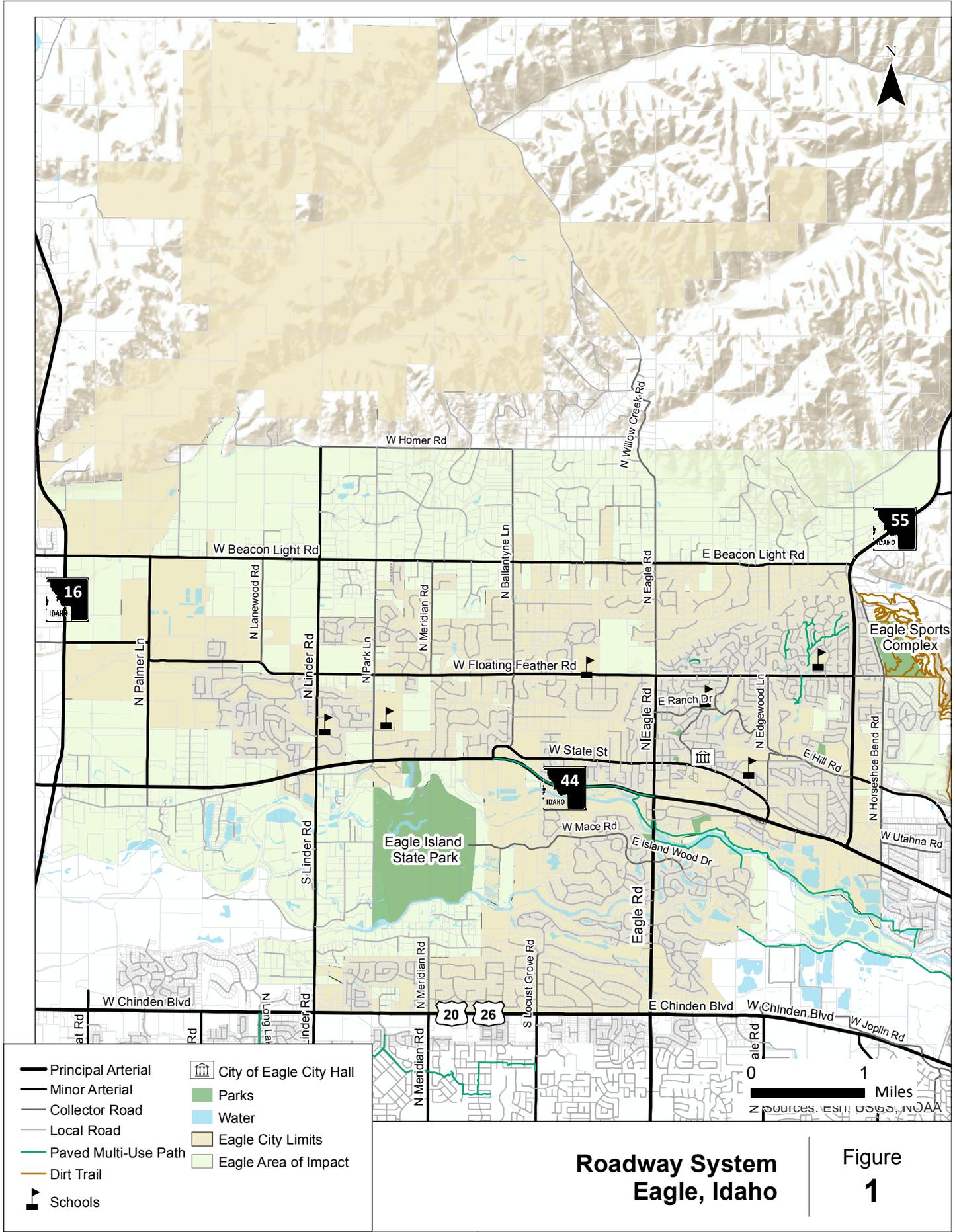
Eagle’s transportation system is made up of roadways, transit service, bikeways, pathways, and sidewalks. These features are mapped and described in this section using data provided by the City of Eagle and Ada County Highway District.

Roadway System

The existing roadway system, including functional classification, is shown in Figure 1. Several arterials and collectors are placed at approximately one mile intervals, with a few collectors spaced more closely together. East-west connectivity is generally limited to four arterials: Beacon Light Road, Floating Feather Road, State Highway (SH) 44, and Chinden Boulevard (US Highway 20/26). Otherwise, east-west connections between parallel arterial or collector roadways are limited.

Complete north-south connections are limited by the presence of the Boise River to crossings at Eagle Road, Linder Road, and, on the western edge of Eagle, SH 16. There are additional north-south connections north of SH 44 that connect two or more east-west arterials. However, there are also several sections where north-south connections are limited to the bordering arterials only.

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**Roadway System
Eagle, Idaho**

**Figure
1**

Outside of downtown Eagle, many local roads are curvilinear in design and provide access to residential subdivisions throughout the city. Oftentimes the local roads do not connect beyond the subdivision they serve, forcing traffic onto the arterial network to travel through the city.

Transit System

Public transportation in Eagle includes fixed-line and paratransit bus service provided by Valley Regional Transit (VRT) and vanpool service provided by ACHD’s Commuteride. Fixed-line bus service is limited to Route 44: *Hwy. 44 Express*, which provides one trip into Boise in the weekday a.m. peak hour and a single return trip from Boise during the p.m. peak hour. Route 44 stops at the Eagle Riverside Park and Ride, shown in Figure 2. Commuteride also has a park and ride lot at Ballantyne Lane and State Street.



Figure 2 Existing Transit Routes and Park and Rides

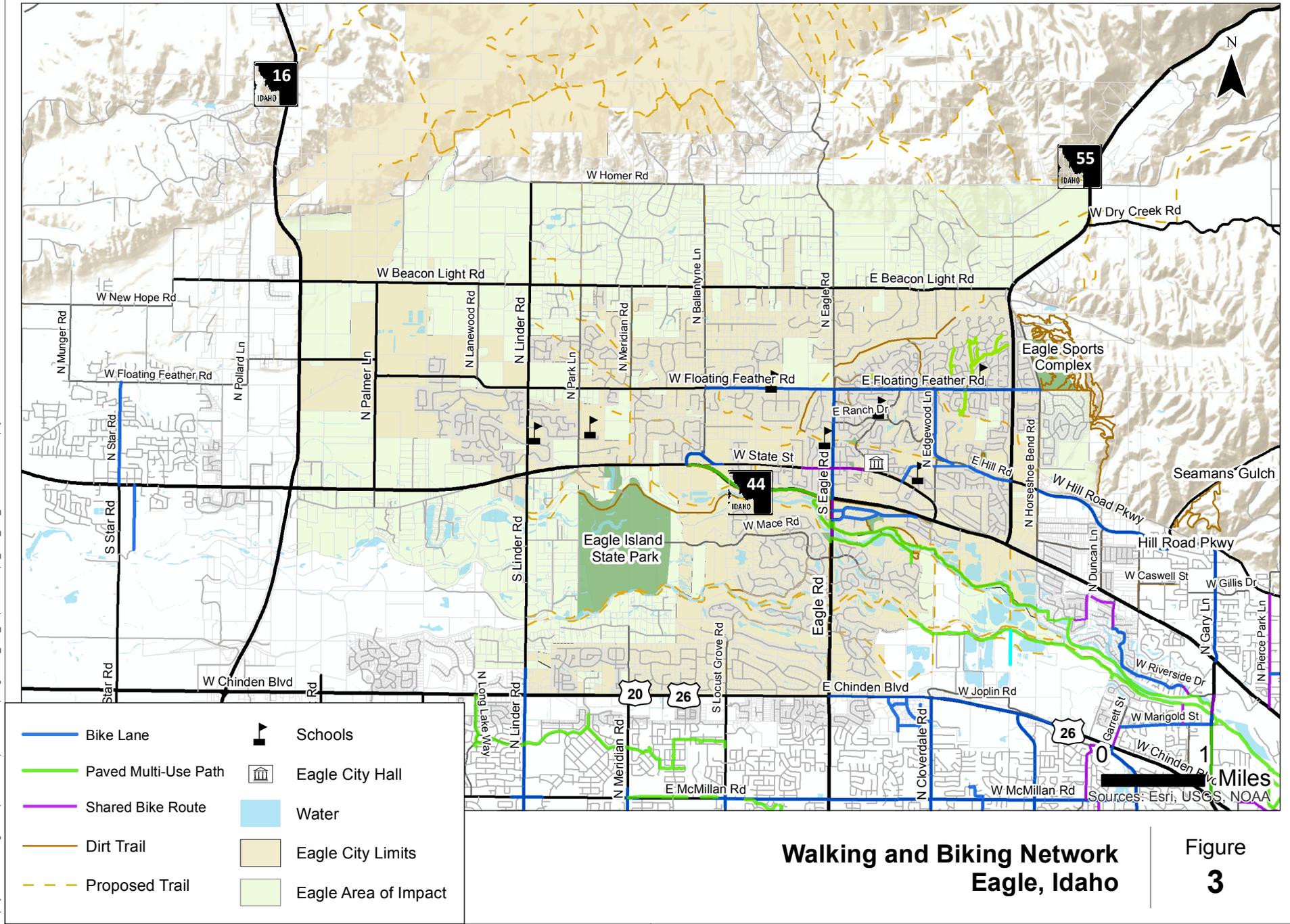
Walking and Biking System

The walking and biking network, except sidewalks, is shown in Figure 3. This network is most developed east of Ballantyne Lane between Beacon Light Road and Island Wood Drive. Bike lanes on arterials are limited to sections of Floating Feather Road, State Street, and Eagle Road.

Sidewalks can be found on most streets in residential subdivisions and the arterial roadways they border. However, many arterial and collector level roadways, particularly west of Ballantyne Lane, remain rural with paved and/or gravel shoulders as the only walking facilities.

The Boise River Greenbelt extends into Eagle on both sides of the river. The northern section connects to SH 44 west of Eagle Road, while the southern section ends in a residential subdivision east of Eagle Road.

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**Walking and Biking Network
Eagle, Idaho**

**Figure
3**

Several trails are planned for the Foothills area as development occurs there.

Existing Traffic Volumes

Existing traffic volumes for arterial and collector roadways, shown in Figure 4, are generally along the roads that provide the greatest level of connectivity through Eagle and to destinations beyond the city. Volumes are highest along Eagle Road and Linder Road, which provide crossings of the Boise River and connect directly into Eagle from Meridian, as well as Chinden Boulevard and SH 44, which both provide connections from downtown Boise through Eagle and into Canyon County. SH 55 on the eastern edge of Eagle, which links SH 44 to the east-west routes through Eagle and to destinations north of Eagle and Eagle Road as it enters the city also have higher volumes. Floating Feather Road is the highest traveled east/west minor arterial, with volumes being greatest in the section that is mostly developed from Eagle Road to SH 55.

Environmental Scan

The environmental scan completed for this memo focuses on waterways and floodways. Eagle is located along the Boise River and the current development of land and roads is influenced by the presence of the river, ponds, and canals as mapped in Figure 5. These waterways will need to be considered as future roadways and pathways are planned. Crossing small canals may be done with simple structures; however, crossing the Boise River and its channels will require a long bridge and extensive environmental study.

Future Conditions

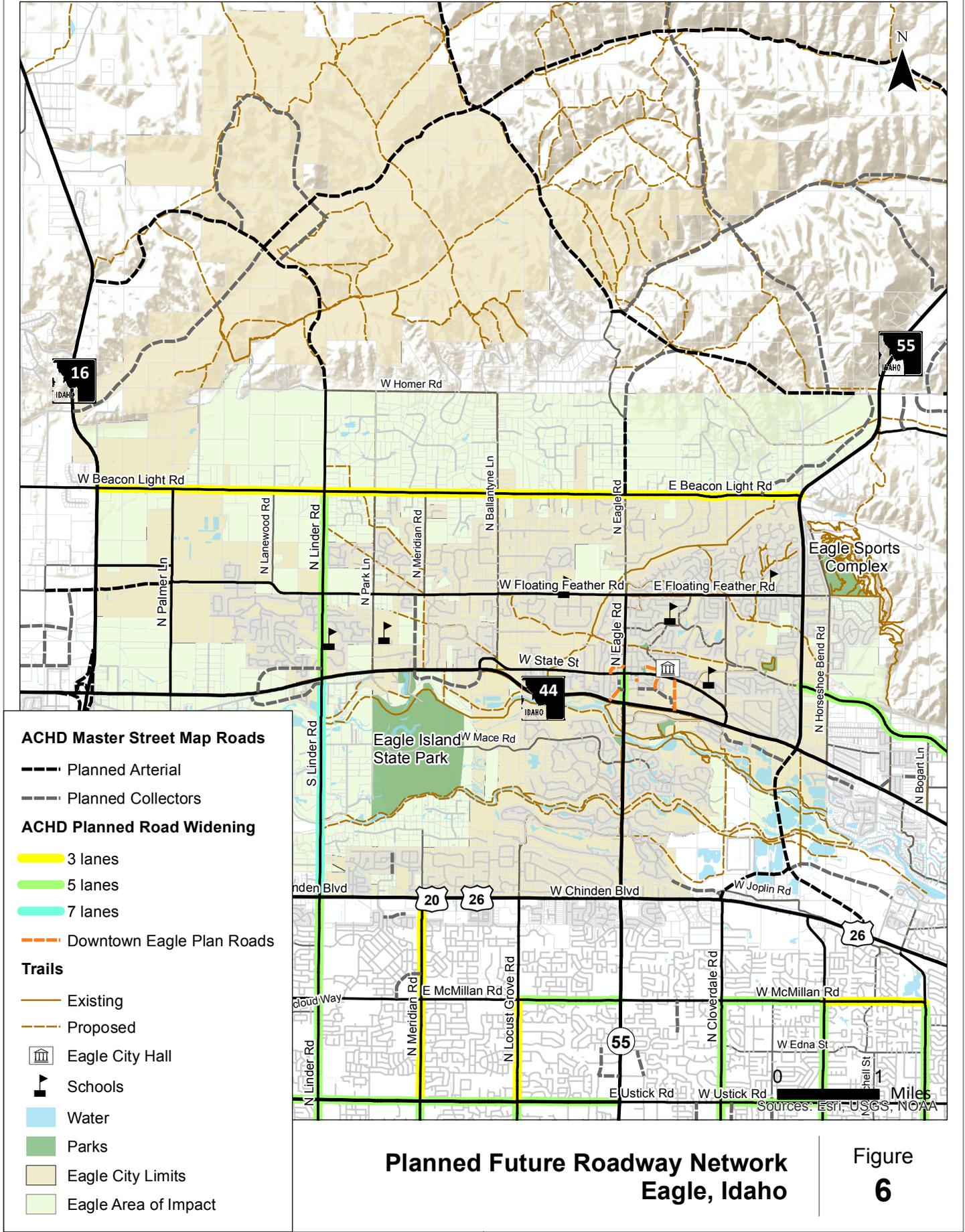
Planned future conditions are presented in this section. This includes roadways that are part of an adopted plan (e.g., ACHD's Master Street Map, Downtown Eagle Plan), as well as the current projected future volumes.

Planned Roadway Network

Figure 6 illustrates the planned roadway network, with Figure 7 providing a closer view of downtown. Sources of planned roads include the ACHD Master Street Map (Reference 1) and the Downtown Eagle Plan (Reference 2). Most of the new roads are expected to be built in the currently undeveloped Foothills area to serve new development. Within the existing city, planned roads include new collector and local roadway connections to enhance local connectivity within Eagle. Additional roads will also be built as development occurs in the area.

Figure 6 also shows where roadway widening projects are planned in ACHD's Master Street Map. Generally, the goal of these expansion projects is to provide additional capacity to the roadway system. Within Eagle the following widening projects are planned:

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Planned Future Roadway Network Eagle, Idaho

Figure 6

- Beacon Light Road is planned to be widened to three lanes (i.e., the two travel lanes it has today, plus a center-turn lane).
- Linder Road is planned for five lanes (i.e., four travel lanes and a center-turn lane) north of State Street and seven lanes (i.e., six travel lanes and a center-turn lane) south of State Street across the Boise River to Chinden Boulevard.
- Hill Road is planned for five lanes.

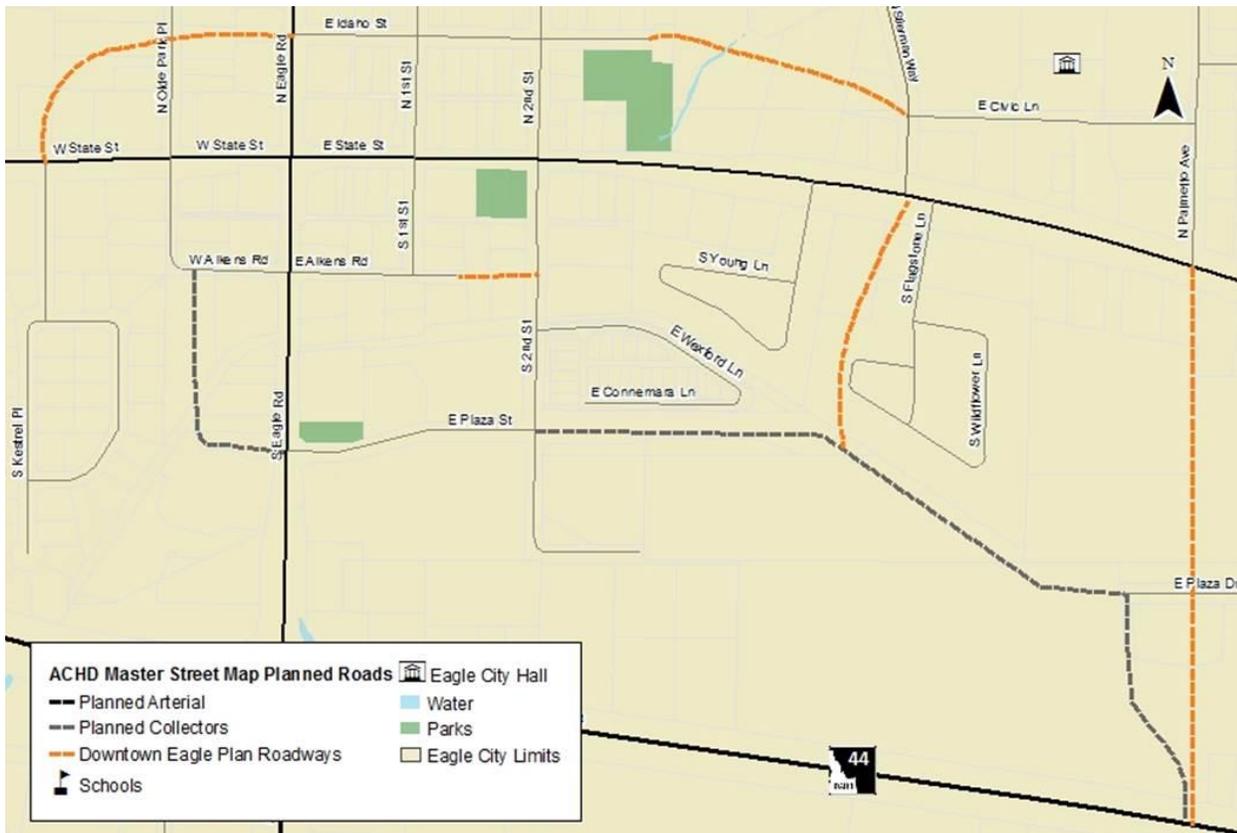
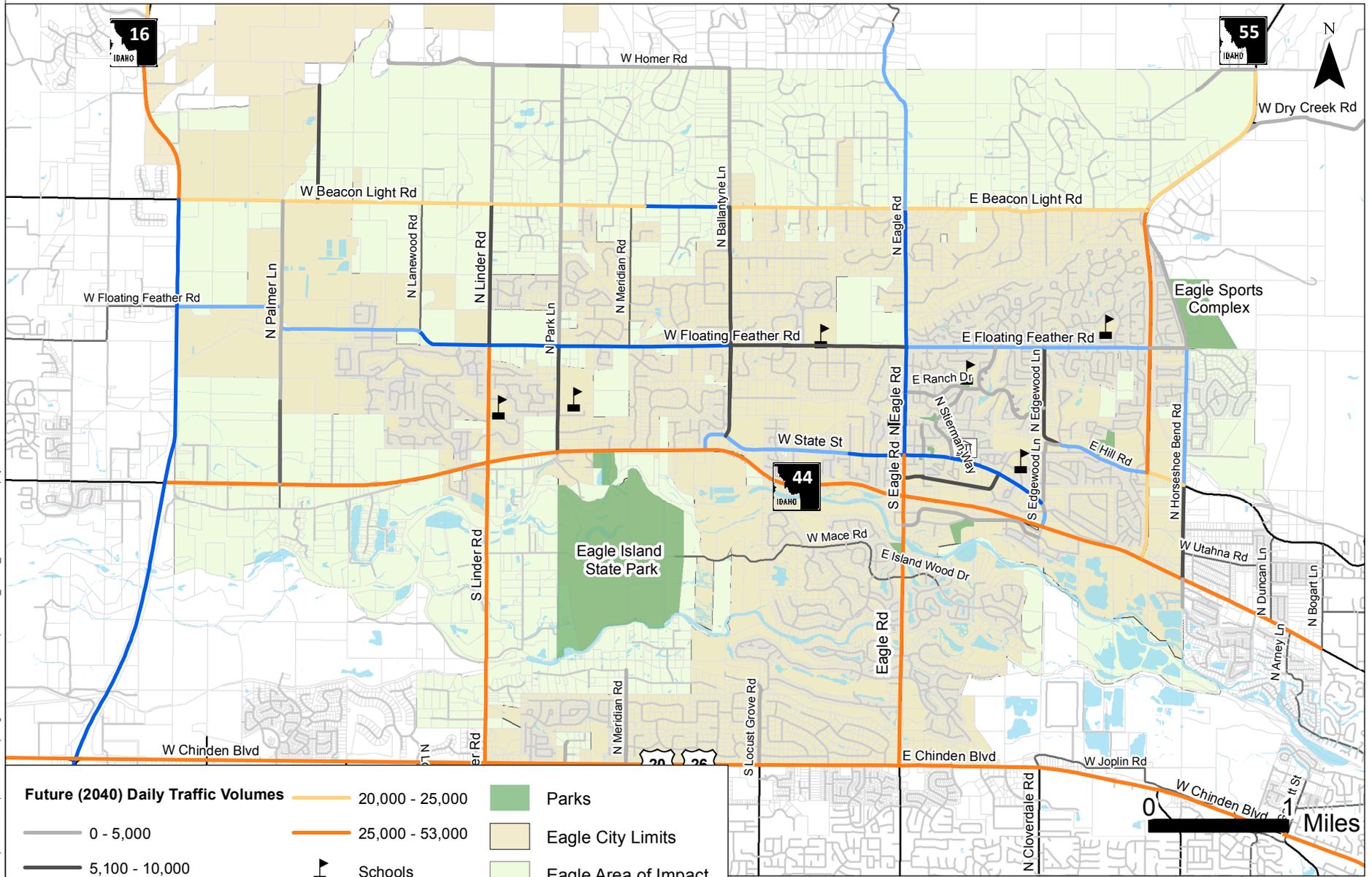


Figure 7 Planned Roadways - Downtown Eagle

Future Traffic Volumes

Future year 2040 traffic volumes were developed from the year 2040 volumes projected by the Community Planning Association of Southwest Idaho (COMPASS) travel demand model. The model uses the most recent 2040 demographic data sets to estimate and forecast average weekday and peak hour demand for the transportation system in the Treasure Valley. The raw model outputs have been post-processed using the procedures from National Cooperative Highway Research Program (NCHRP) Report 255 (Reference 3). The NCHRP 255 methodology calibrates travel demand model volumes using existing traffic counts. Figure 8 summarizes the calibrated project year 2040 daily traffic volumes.



Future (2040) Daily Traffic Volumes	20,000 - 25,000	Parks
0 - 5,000	25,000 - 53,000	Eagle City Limits
5,100 - 10,000	Schools	Eagle Area of Impact
10,000 - 15,000	Eagle City Hall	Water
15,000 - 20,000	Schools	

**Projected Future Traffic Volume
Eagle, Idaho**

**Figure
8**

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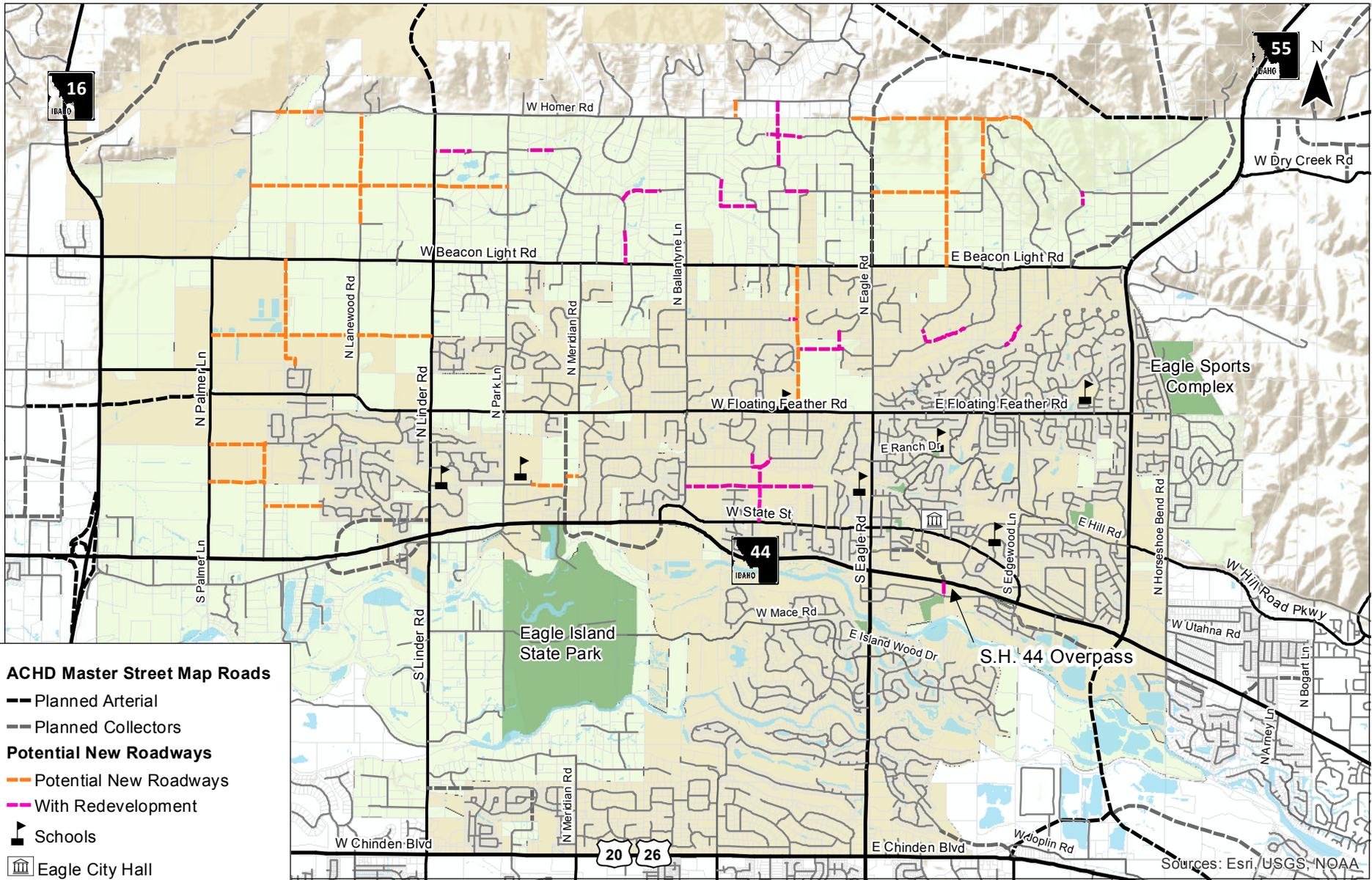
Notably, the model and figure show that traffic volumes are forecast to increase significantly along east-west arterials, such as Beacon Light Road, Floating Feather Road, and State Street. There is limited east-west connectivity within Eagle, so as both local and regional traffic grows, greater demand will be placed on the few roads that connect between the north-south arterials and collectors, especially those that connect SH 16 and SH 55. Providing additional connections within the city for people that are starting and/or ending their trips within Eagle could help alleviate some of the projected demand on these roadways.

INITIAL CONNECTIVITY REVIEW

A primary focus of the new Eagle is HOME vision is providing “interconnected user-friendly roadways.” In order to define what the implementation of this vision could look like, the project team has identified potential roadway connections, beyond those previously shown in Figure 6, which could be adopted into the updated comprehensive plan. The potential new roadways are shown in Figure 9; these routes are preliminary and meant to cast a wide net with respect to what might be possible. We expect that the figure will be refined based on feedback from the Comprehensive Plan Steering Committee and the public. The actual alignment of any new roads will be based on land development and future engineering work.

The potential roadways were generally identified by first looking for opportunities to provide continuous north-south and east-west connections between adjacent arterials or section-line collectors (i.e., Ballantyne Lane) approximately every ½-mile (i.e., approximately halfway between the major roads that are typically spaced about one-mile apart). Then, opportunities to provide continuous connections at other locations by making short connections between existing (particularly existing stub streets) or planned roadways were noted. When possible, the identified connections make use of undeveloped land and so could possibly be added to ACHD’s Master Street Map and built as development occurs. In other instances, the potential new roadways connect existing streets through land that is currently developed at a low-density. These new connections would only be built if, and when, those existing sites redevelop.

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ACHD Master Street Map Roads

- Planned Arterial
- Planned Collectors
- Potential New Roadways**
- Potential New Roadways
- With Redevelopment
- 🏫 Schools
- 🏛️ Eagle City Hall
- 💧 Water
- 🌳 Parks
- 🏠 Eagle City Limits
- 🌿 Eagle Area of Impact

**Potential Circulation Improvements
Eagle, Idaho**

**Figure
9**

Coordinate System: NAD 1983 StatePlane Idaho West FIPS 1103 Feet
Data Source: City of Eagle, Ada County Highway District

NEXT STEPS

This memorandum will be reviewed with City of Eagle staff and the Comprehensive Plan Steering Committee. After this, the vision, goals and potential new collect roadways will be presented to the public for their feedback at an open house on August 30th. Based on the feedback we receive through this process, this memo will be revised to include a draft final vision, goals, and proposed collector roadway network

Once this is complete, we will begin assessing the potential new roadways by identifying:

- Potential new specific roadway connections in built-out areas (e.g., downtown)
 - Assess planning level feasibility of such connections (e.g., potential property impacts and construction challenges)
- Policies to implement new roadway connections in undeveloped planning areas
- Policies to implement new sidewalk, pathway, and bike lane connections
- Desirable transit corridors
- Cross-section and typology changes, including types of pathways and bike lanes
- Access policy modifications

In addition, we intend to:

- Develop recommended prioritization criteria that can be used to assess recommended connections in the comprehensive plan and prioritize them, as well as projects proposed by future planning efforts
- Apply the prioritization criteria to the identified new connections to create a prioritized list of projects that can be used to communicate the City's priorities to ACHD and ITD

REFERENCES

1. Ada County Highway District. *Master Street Map*. Adopted February 24, 2016.
2. City of Eagle. *Downtown Eagle Plan*. Resolution No. 11-02, approved February 2011.
3. National Cooperative Highway Research Program (NCHRP). NCHRP Report 255: *Highway Traffic Data for Urbanized Area Project Planning and Design*.

Attachment A Comprehensive Plan Goals Audit

Roadway System Goal Review

A. Roadway System Goals	Review
1. Develop a transportation system to serve the planned land uses of the City of Eagle and its Area of Impact. The transportation system should provide regional connectivity to neighboring cities and regions.	Consistent with theme: This goal supports the committee’s recommendations for a focus on connectivity and the transportation system’s need to provide multiple routes through the community.
2. Maintain the functional and connectivity of the street system for current users, emergency response efforts, and for use by future generations.	Consistent with theme: This goal supports the committee’s recommendation to increase connectivity. It also supports the “Eagle is HOME” theme to use transportation to improve livability.
3. Using sound land use and transportation relationships, develop alternate routes or corridors for ACHD planners to evaluate that best emphasize the needs of developing areas while lessening the potential for congestion. This is typically implemented through the development review process.	Consistent with theme: This supports the multifaceted element of the “Eagle is HOME” theme to use transportation to create well-designed activity centers and directed growth. In addition, this supports the committee’s recommendation to work with ACHD to track the accumulative traffic impacts through development review.
4. Protect and buffer homes, businesses, sidewalks and pathways, parks and opens spaces from the adverse impacts of roadways and traffic. Reasonable design measures should include narrower street sections, medians, alleys, landscaping, pathways and trails, and the design of bridges and other structures.	Potentially modify this goal: <i>This is generally consistent with the committee’s recommendation to establish road typologies and street sections. At the same time, there’s an opportunity to rephrase this goal to reflect the ability of land use and urban design to support the intended role of streets.</i>
5. Develop an access management plan for the arterial, collector and local street system. Communicate the access management plan to the ITD, the ACHD and the local development community.	Potentially modify this goal: <i>There is not a clear relationship between the theme and this particular goal. It may be worth modifying this goal to better tie to the theme or to remove it.</i>
6. Work regionally to develop a new east-west principal arterial in the Foothills region north of the SH-44 Corridor. The goal of this new arterial is to improve east-west connectivity between northern Canyon County and the Downtown Boise region. This route may involve more than one County Government. This route would complement the current planning efforts by COMPASS and ACHD to enhance the Beacon Light Road/Purple Sage Road and Hill Road corridors. Other east-west routes are becoming increasingly congested.	Potentially remove this goal: <i>This goal seems to have been covered in the recent Foothills planning efforts and discussions regarding Beacon Light Road.</i>
7. Work regionally to support a new east-west connection between SH-16 and SH-55 within the Foothills region. This route would complement the current planning efforts by COMPASS and ACHD to enhance the Beacon Light Road/Purple Sage Road and Hill Road corridors.	Potentially remove this goal: <i>This goal seems to have been covered in the recent Foothills planning efforts. There is now such a connection in ACHD’s Master Streets Map.</i>
8. Develop transportation strategies for the North Foothills area. The plan should be consistent with the balanced, long-term goals of the existing street system within the City of Eagle.	Potentially remove this goal: <i>ACHD recently updated the Northwest Foothills Transportation Study and has adopted the roadway network into the Master Streets Map.</i>
9. Develop a citywide plan and policy on measuring and implementing a means of concurrently improving the transportation and public transit systems with the approval of	Potentially modify or remove this goal: <i>Improving public transit is in line with “Eagle is HOME” theme. Simplifying this goal to creating a citywide transit</i>

<p>new developments. Create a concurrency ordinance to ensure the adequate funding of transportation and transit system improvements at the time of development.</p>	<p><i>plan, including a funding plan may be more appropriate given the experience of other jurisdictions with concurrency ordinances. This goal could be redundant to the Public Transit System Goals and could possibly be removed.</i></p>
<p>10. Protect and support the existing and planned roadway system connecting the City of Eagle to the area south of the Boise River. Protect the operational integrity of the existing river crossings at Eagle Road and Linder Road. Support the current regional plans to develop two new river crossings in the SH-55 and SH-16 alignments.</p>	<p>Potentially modify this goal: <i>The crossing at SH 16 has been built.</i></p>
<p>11. To the extent possible, roadway and pathway designs shall conform to the natural terrain and contours of the land.</p>	<p>Potentially modify this goal: <i>This supports the “Eagle is HOME” transportation theme to create user-friendly roadways. In addition, it supports the recommendation to establish road typologies. It could be combined with Roadway System Goal 4.</i></p>
<p>12. Protect community identity and values of important roads from unnecessary expansion by adopting specific designs and cross sections for these roads (ie: North Eagle Road).</p>	<p>Consistent with theme: This is consistent with “Eagle is HOME” and the recommendations of the committee to establish road typologies.</p>

Public Transit System Goals

<p>B. Public Transit System Goals</p>	<p>Review</p>
<p>1. Encourage the development of a local and regional public transit system. The public transit system is to provide basic mobility for some, alternative transportation for others, and a non-drive alone mode for everyone.</p>	<p>Consistent with theme: This is consistent with “Eagle is HOME” transportation theme and active community element.</p>
<p>2. Optimize the effectiveness of public transit through supporting land use decisions.</p>	<p>Consistent with theme: This supports the “Eagle is HOME” multi-faceted element’s desire for direct growth and well-designed activity centers. In addition, optimizing the effectiveness of public transit is consistent with the theme’s focus on creating economically viable balanced communities.</p>
<p>3. Promote land use changes and redevelopment plans in key areas that provide densities and activities that promote the use and efficiency of a public transit system.</p>	<p>Potentially modify this goal: <i>This supports the theme but could be combined with the Goal B-2.</i></p>
<p>4. Work regionally with COMPASS and Valleyride to plan for the potential of a regional rail or bus rapid transit system. The SH-44, SH-16, SH-55 and US 20-26 corridors have the greatest potential.</p>	<p>Consistent with theme: This supports the committee’s recommendation to work regionally to bring commuter service to the City of Eagle and beyond.</p>
<p>5. Evaluate concepts to fund the operation and expansion of the regional public transit system and facilities.</p>	<p>Consistent with the theme: This is consistent with “Eagle is HOME” transportation and active community element.</p>
<p>6. Coordinate with the Land Use Elements of the Comprehensive Plan to establish potential transit nodes in the</p>	<p>Potentially modify this goal: <i>This supports the theme but could be combined with the Goal B-2.</i></p>

future transit corridors.	
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Pathway System Goals

C. Pathway System Goals	Review
1. Encourage the development of a local and regional pathway system. The design of the pathway system should be coordinated with other elements of the City’s Comprehensive Plan. The pathway system is to provide basic mobility for some and a non-drive alone mode for everyone.	Consistent with theme: This is consistent with “Eagle is HOME” transportation and active community element.
2. Work regionally to integrate the pathway system with the ongoing planning and design efforts for the SH-44, SH-16, SH-55 and US 20-26 corridors	Consistent with theme: Though the theme does not explicitly recommend working regionally with regard to the pathway system, this supports recommendations for increased connectivity.
3. Support the concept and goals of demand management strategies, such as telecommuting, ride-sharing, park-and-ride facilities, etc. to reduce overall travel demand.	Consistent with theme: The theme or recommendations do not address travel demand. However, it can be inferred that reduced travel demand would support the “Eagle is HOME” theme for increased livability.

Recommendations Made by Committee Not Included in the Existing Goals

Recommendation made by Comprehensive Plan Review Committee	Recommendation
Use methods similar to Plaza Drive and consider purchasing of property as it comes on the market in order to make connection feasible in the future	Consider as implementation strategy
All efforts should be made to gain a right in/right out access point in SH 44 midpoint between Edgewood Lane and Eagle Road. Provide other access points into the downtown to shift people from State Street and Eagle intersection.	Consider as implementation strategy
City needs to be budgeting for roadway improvements so that City can leverage and provide clear direction to ACHD	Consider as implementation strategy
City needs to work with ACHD and ITD to bring the Three Cities River Crossing back to the forefront. Recent expansion of 5 Mile and Cloverdale has changed the capacity on the south side.	Consider as implementation strategy
Reclassify Ballantyne Lane as a Minor Arterial. It now connects to SH 44 and is likely to become an important north-south connection from Beacon Light Road south.	Consider as implementation strategy