



Photo: Dine Bentley-Raymond

# Redesign Streamline 2020

## Transit Development Plan

January 2021

Redesign *Streamline*  
2020

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# Introduction

Bozeman, Montana is one of the fastest growing micropolitan areas in the country. After the 2020 U.S. Census is fully processed, the population of Bozeman is expected to surpass 50,000. This number is an important threshold in Federal Transit Administration (FTA) formula funding, changing Bozeman's classification from rural to a small urbanized area, impacting grant eligibility. Furthermore, HRDC would no longer be an eligible sub recipient of federal funds, requiring either the establishment of an urban transit district (UTD) or for the City of Bozeman or Gallatin County to become responsible for providing service. A UTD or municipality could contract with HRDC to operate service, but they would become the policy body and recipient of funds.

The Streamline routes and network design have not had a major evaluation and update since the system started in 2006. With such rapid population growth and potential changes to funding, Streamline launched Redesign Streamline 2020 to evaluate existing service and rethink Streamline service for the future.

The first step of Redesign Streamline 2020 was a study of existing service and market conditions, the findings of which are detailed in the Existing Service and Market Conditions report in April 2020. The next step was the development of service strategies and recommendations, which were vetted by the public outreach process and Streamline Board. The project culminates with this Transit Development Plan which solidifies the final service recommendations and provides implementation guidance.





# Public Outreach Summary

An online community survey was conducted in May of 2020. A total of 889 responses were received, of which 136 were students and 753 were non students. The full results of the survey are summarized in Appendix A.

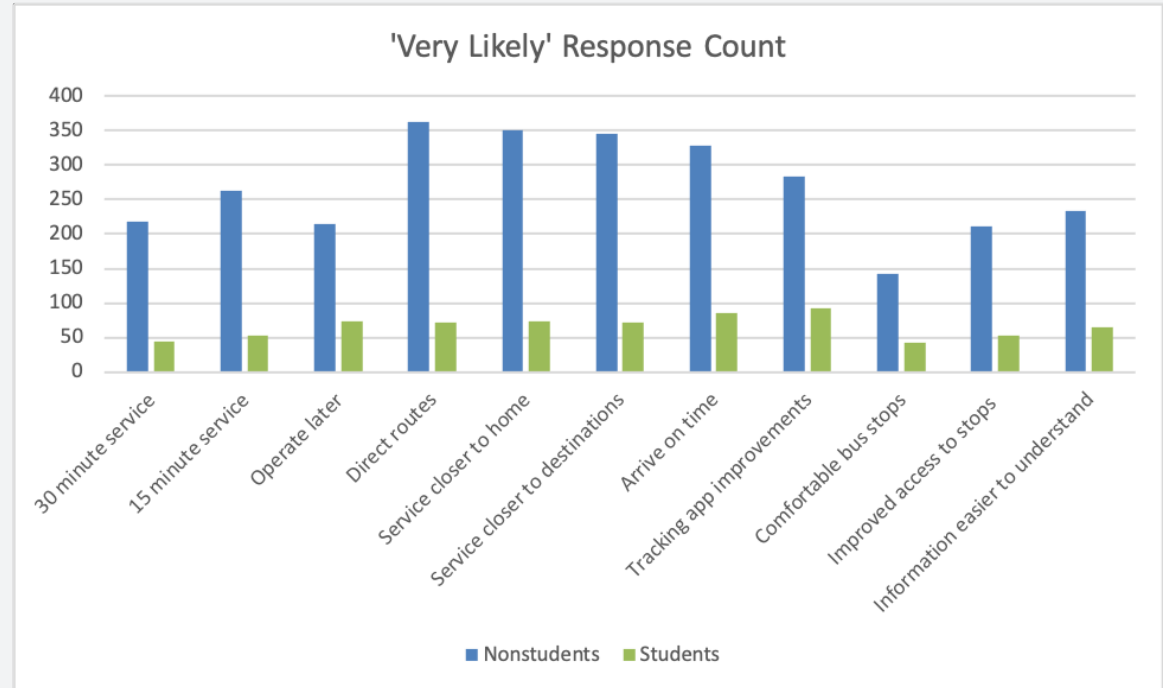
Respondents were given a choice of actions and asked how likely these improvements would result in their increased use of Streamline. The top responses for regular riders were improved on time performance, a better tracking app, later service, more direct routes, and service closer to destinations. The top choices for non-riders were service closer to home, more direct routes, service closer to destinations and improved on time performance.

With limited resources it impossible to both provide both more direct routes and provide more coverage that will result in service closer to many homes. The recommendations described below are designed to address existing issues with on time performance, to provide more direct service to stops that have the highest usage and to provide two way service to all major destinations (as opposed to the one way service that exists at many locations today) and the two way service may address the desire for providing service closer to destinations for many respondents.

In addition to the multiple choice question respondents were asked to write in the top actions that would result in using Streamline more often. The responses are summarized in Figure 2 below.

**FIGURE 1: COMMUNITY SURVEY RESULTS**

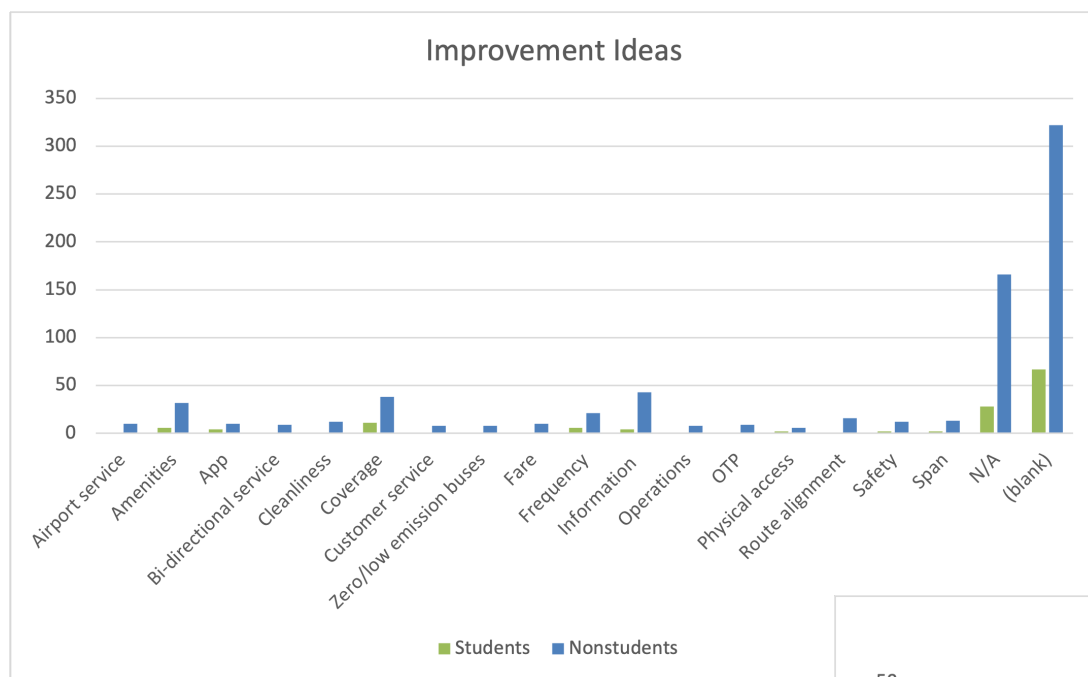
How likely would each of the changes result in you riding Streamline or using it more often?



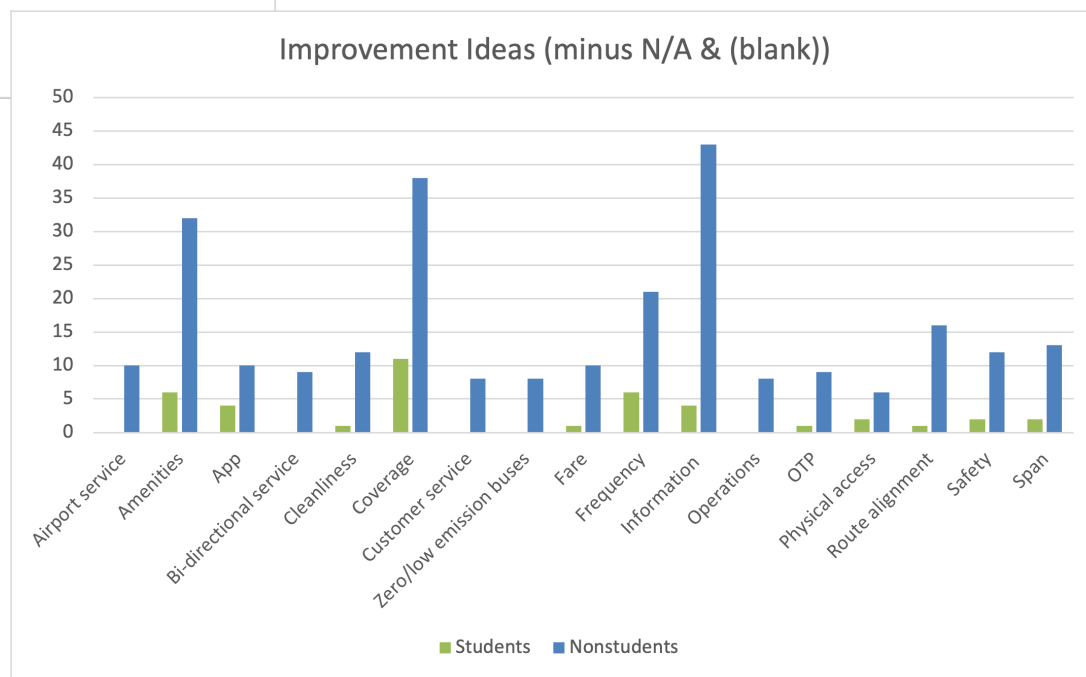
Betterservicecoverage,improvedcustomerinformation and amenities were the top three responses. Although increasing service coverage was the top response, the actual locations in which individuals requested service were scattered throughout the service area and included many low density neighborhoods that simply cannot support fixed route transit. In some areas microtransit (as described on page 19) could

be an option, however this will require an increased operating budget. The implementation plan, which will be developed upon the conclusion of feedback on the service recommendations described below, will address customer information.

**FIGURE 2: COMMUNITY SURVEY RESULTS**  
Improvement Ideas



**FIGURE 3: COMMUNITY SURVEY RESULTS**  
Improvement Ideas





# Transit Vision and Service Strategies

## VISION

**The following vision identifies the goals for HRDC's service and serves as the foundation for recommendations:**

The vision for Streamline to be the provider of mobility services and alternatives to the single occupancy vehicle in southwest Montana.

## SERVICE STRATEGIES

The recommendations in this Transit Development Plan (TDP) include three different scenarios, which vary in service levels depending on funding availability. However, the core service strategies that address the need to create a useful, understandable, and operable integrated network that can be used for all kinds of trips are described below and remain the same for each scenario.

### Match Transit Service to Market Demand

For Streamline to remain financially sustainable, the agency needs to focus on providing bus service where it can be most successful. Transit success is directly influenced by surrounding development patterns and density. For transit to be tremendously successful, there must be a strong mix of population and employment densities, as well as a street and sidewalk network that promotes walkability and access. Higher population and employment densities are supportive of transit because they provide a larger potential customer base to draw from. The road and sidewalk

networks impact several aspects of transit: how easy it is for pedestrians to access the network; transit travel time; and connectivity between destinations. This means Streamline should focus service in areas where the density and design of the surrounding land uses can support efficient and effective transit. Conversely HRDC should work closely with the City of Bozeman, City of Belgrade, and Gallatin County to assure that future higher density development occurs along transit corridors identified in this plan and that the design fosters safe and attractive pedestrian access to transit.

Matching transit service to market demand requires a focus on the actual travel needs of potential customers. This includes span of service and frequency which are discussed in the next section.

### Improve the Customer Experience

**Reduce Travel Time on the Bus:** The amount of time passengers spend traveling on a bus to their destination influences their experience and impacts how often and for what trips they choose to use transit. One-way routes increase the amount of time passengers must spend on the bus and makes the service less attractive. Additionally, riders perceive travel delay as twice as long as it actually is, so out-of-direction movements can significantly deter ridership. Transit already struggles to be an attractive choice in an area like Bozeman where travel times are short and there are low levels of traffic congestion. Reducing travel times can help make transit service more competitive with automobile travel. Providing bi-directional service on routes will reduce travel time, improve customer satisfaction, and make the service more attractive to both existing and potential riders.

**Increase Service Spans:** Service span affects passengers' ability to use transit for all their daily needs. If riders can take a bus to work but cannot take the same bus home because the service span is too short, they will likely forego riding the bus altogether.

Similarly, for anyone who works on weekends, while they could take transit to work on weekdays, lack of weekend service discourages transit use throughout the rest of the week. Increasing the hours and days that service is available will improve customer mobility, especially for individuals who work hours outside of the traditional Monday-Friday 9am-5pm period.

**Improve Frequency:** Out-of-vehicle wait time is the most important factor individuals consider when deciding whether to use transit. Improving service frequency (how often the bus comes) can greatly enhance the overall passenger experience and attract more riders to the system.

**Improve Information Availability:** One potential barrier to transit use is whether it is easy for customers to understand how routes operate and where they go. Many customers and stakeholders indicated a need for more accessible system information, including better information at bus stops and easy to understand route maps and schedules. The proposed service changes provide an opportunity to adopt a new style of bus stop signs and route information that is more user-friendly and accessible. It is recommended that HRDC develop clearly marked bus stop signs that include the following information:

- » Streamline Logo
- » Stop ID Number
- » Customer service information, such as website address, help-line phone number, and QR code
- » Routes that service the stop

In addition to improved bus stop signs, it is also recommended that HRDC improve the real-time tracking mobile app. Criticism of the accuracy of the current app was one of the top concerns in the on board survey. An accurate app allows customers to see next-bus arrival time, access trip planning functions, and see route maps and schedules from their mobile device. This effort could be implemented with the other proposed improvements as part of a coordinated update of Streamline's services.

**Improve Access to Transit:** The transit customer's trip does not begin and end at the bus stop. Most customers will walk to and from the bus and an increasing number of customers may access by bicycle or other micro mobility devices. While HRDC or a successor UTD will not have responsibility for the walkways or paths used by customers to access transit, it is incumbent to locate stops in locations that optimize direct access for the surrounding areas. This is particularly critical in areas that do not have a classic grid street pattern where the actual path transit customers must take to access bus service from the surrounding neighborhoods should be considered when locating bus stops. It is also essential to partner with the entities responsible for walkways and roadways to provide a safe and attractive environment for pedestrian and bicyclists within the walkshed of transit stops. Regarding the stops themselves it is critical to provide hardscape for customers where customers are waiting and getting on and off buses along with ADA access and benches or shelters to provide comfort and protection from the elements while waiting for the bus. (See Capital Program below for more details on bus stop improvements.)

FIGURE 4: BUS STOP SIGN EXAMPLES





# Service Recommendations

The following service recommendations were developed in close collaboration with HRDC staff and reflect the vision and service strategies described above. The service recommendations are presented as a series of three funding scenarios: Core Service, Additional Route, and Long Term. The Core Service Scenario has four routes operating throughout the year Monday through Friday and portions of three routes operating on weekends. A fifth route, the current Livingston route would operate for six months between October and April. Skyline service between Big Sky and Bozeman would serve Four Corners. The Additional Route scenario adds a sixth route. In the Long Term scenario, service levels are significantly increased, with two additional fixed routes and three micro-transit zones added. A summary of the key elements for each service scenario is shown in Table 1.

<sup>1</sup> This table excludes the LateNight Downtown route and Bridger Bowl service which will continue to operate unchanged assuming funding remains in place.

<sup>2</sup> In addition to eight fixed routes, there are three microtransit zones.

<sup>3</sup> 30-minute service is provided on four routes during peak hours during the school year only. The Green Route has four trips in each direction; the Livingston Route has one AM trip and one PM trip.

<sup>4</sup> Route A and C only. All other routes operate until 7:30pm.

<sup>5</sup> 13 full-size buses for fixed route service and three smaller vehicles for microtransit service

<sup>6</sup> Excludes Bridger Bowl. Includes cost of operating Livingston Route six months of the year and continued operation of LateNight Downtown. Reflected in 2020 dollars.

<sup>7</sup> Assumes longer service span on Route A and C, 30-minute peak service operates all year and Sunday service span is same as Saturday.

**TABLE 1: SERVICE SCENARIO COMPARISON**  
Service Availability<sup>1</sup>

SERVICE PLAN ELEMENT	EXISTING	CORE SERVICE	ADDITIONAL ROUTE	LONG TERM
Number of Routes	6 weekday 4 Saturday 1 Sunday	5 weekday 3 Saturday 3 Sunday	6 weekday 4 Saturday 4 Sunday	8 weekday <sup>2</sup> 7 Saturday 7 Sunday
Frequency	30/60 min weekday <sup>3</sup> 60 min Saturday 60 min Sunday	30/60 min weekday 60 min Saturday 60 min Sunday	30/60 min weekday 60 min Saturday 60 min Sunday	30/60 min weekday 30 min Saturday 60 min Sunday
Availability	6:30am-7:15pm wkd <sup>1</sup> 7:30am-6:15pm Saturday 9am-5pm Sunday	6:30am-9:30pm wkd <sup>4</sup> 8am-7pm wknd -	6:30am-9:30pm wkd <sup>3</sup> 8am-7pm wknd -	6am-10pm weekday 8am-8pm Saturday 8am-8pm Sunday
Access within 1/2 mile of service	100% of existing weekday stops 100% of average weekday boardings	89% of existing weekday stops 97% of average weekday boardings	93% of existing weekday stops 99% of average weekday boardings	93% of existing weekday stops 99% of average weekday boardings

**TABLE 2: SERVICE SCENARIO COMPARISON**  
Service Statistics<sup>1</sup>

SERVICE PLAN ELEMENT	EXISTING	CORE SERVICE	ADDITIONAL ROUTE	LONG TERM
Revenue Hours	21,594	22,075	27,620	74,827
Revenue Miles	384,207	300,138	357,307	999,423
Peak Vehicles	8	8	10	16 <sup>5</sup>
Operating Cost <sup>6</sup>	\$1,514,589	\$1,548,324 <sup>7</sup>	\$1,937,251	\$5,248,393

## PROPOSED NETWORK AND ROUTE ALIGNMENTS

The key difference between the existing and proposed networks is that routes, with one small exception, no longer operate as one-way loops. Instead, all routes provide bi-directional service along Streamlined alignments. This was done to shorten customer travel times and make the system easier to understand and navigate. To reduce confusion with current bus service, all recommended routes are lettered. The new network deviates far enough away from the existing service that it will be easier to communicate route changes to riders based on an entirely new lettering system rather than trying to figure out which route most closely resembles the one they are used to riding. However at the time of implementation identifying routes by color as is the current practice may continue.

The proposed Core Service network includes four year-round routes (Map 9), while the Additional Route network (Map 12) adds a fifth route to provide additional geographic coverage and the Long Term Plan (Map 15) adds a sixth and seventh route for further coverage to growth areas. In all scenarios the proposed service remains focused on key destinations, providing bi-directional service, and in residential areas with transit-supportive density and high existing ridership. Individual route descriptions and maps are provided below.

### Route A

This route will provide all-day local service along a north/south alignment connecting MSU in the south with Target and adjacent retail establishments in

the north, connecting residents with employment, educational, and shopping opportunities (Map 1). The route begins at the MSU Strand Union Building, traveling through the center of campus along S. 11th Avenue, then east on W. College Street and north on S. Willson Ave to Downtown. It will then loop to serve the Downtown Transit Center via Babcock Street, N. Rouse Avenue, and E. Mendenhall Street.<sup>8</sup> The route continues westbound on Mendenhall Street and then northbound on N. 7th Avenue to Oak Street where the route will deviate to serve Walmart. After serving Walmart the route will travel west on W. Oak Street, north on N. 15th Avenue, west on Tschache Street and north on N. 19th Avenue. At the north end of the route it will make a one way loop via Cattail Street, N. 27th Avenue, Catron Street and Max Avenue to the terminal in the parking lot near Staples. Southbound the route will travel on Max Avenue, Cattail Street to N 19th Avenue and replicate the northbound route back to MSU. This route will connect with all other proposed Streamline routes – Route B Downtown, Route C at MSU and Route D at Walmart. It will also connect with Skyline Bus at Walmart and MSU and with Jefferson Line intercity buses at Walmart. In the Additional Bus plan it will connect with Route E Downtown and in the Long Term Plan it will connect with Route F at MSU and at the northern terminal and Route G at Walmart. Route A and C will be interlined at MSU Strand Union. Passengers wishing to travel between the two routes may stay on the bus during its layover. Interlining is necessary because the round trip running time on Route A exceeds 60 minutes while the round trip running time on Route C is about 40 minutes. By interlining the shorter route with the longer route; one less bus is needed to provide the combined service.

### Route B

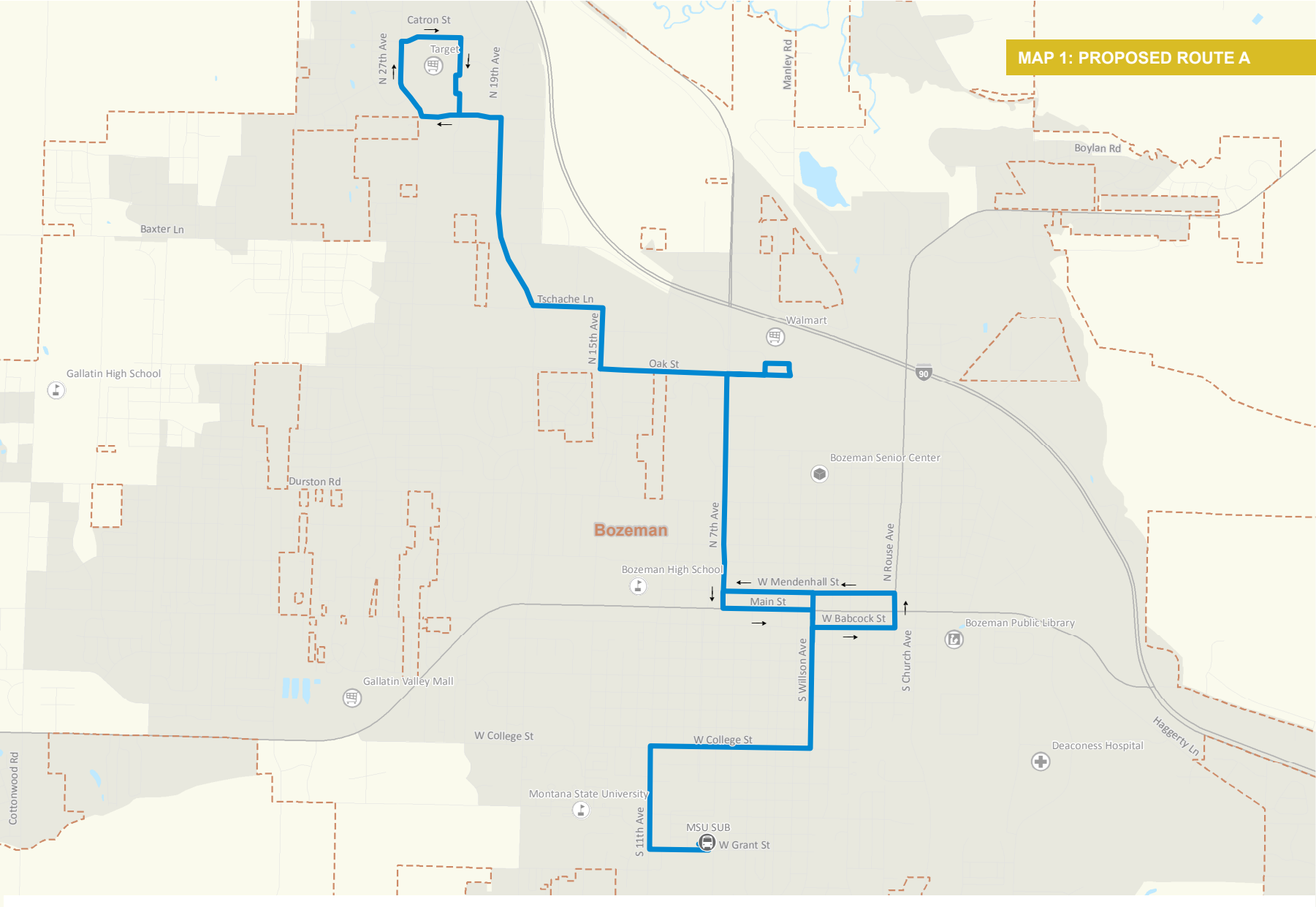
This route will connect the Gallatin Valley Mall, Downtown, and Deaconess Hospital via a direct two way route operating primarily on Main Street (Map 2). Bozeman High and the Main Library will also benefit from two way service. The route will begin at Gallatin Valley Mall and travel along Main Street to Downtown Bozeman. Traveling eastbound it will make a counterclockwise loop via S. Willson Avenue, Babcock Street, N. Bozeman Avenue, E. Mendenhall Street and N. Tracey Avenue to serve the Downtown Transit Center and facilitate transfers with Route A.<sup>9</sup> It will continue traveling along Main Street to Haggerty Lane, Ellis Street and Highland Blvd. to Deaconess Hospital. Customers wishing to board on Haggerty Lane and Ellis Street will need to board as the bus heads to Deaconess Hospital since making a left turn from Haggerty Lane to Main Street in the reverse direction is not safe. The bus will use Highland Blvd. between the Hospital and Main Street. The route will operate westbound on Main Street to Gallatin Valley Mall jogging via N. Rouse Street, Mendenhall, and N 7th Avenue to serve the Downtown Transit Center. From Gallatin Valley Mall this route will also make a one way loop via Huffine Lane, S. Cottonwood Road, Fallon Street, Ravalli Street, S. Fowler Avenue and Huffine Lane back to the Mall. In the AM, the bus will make this loop after laying over at the Mall before the eastbound trip. In the PM buses will continue on this loop after stopping at the Mall and taking a layover after completing this loop before continuing eastbound. Passengers riding through the Mall may stay on the bus during its layover. This route will connect with Route A Downtown and Route C at the Mall.

<sup>8</sup> The loop is shown counterclockwise based on the existing westbound one-way direction of Mendenhall. If the City converts Mendenhall to a two-way street requiring the removal of the center transit island the loop will be made in the clockwise direction and buses will stop on the curb next to the transit waiting room.

<sup>9</sup> If the City converts Mendenhall to a two way street requiring the removal of the center transit island the loop will be made in the clockwise direction and buses will stop on the curb next to the transit waiting room.

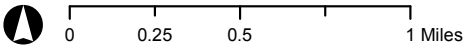


MAP 1: PROPOSED ROUTE A

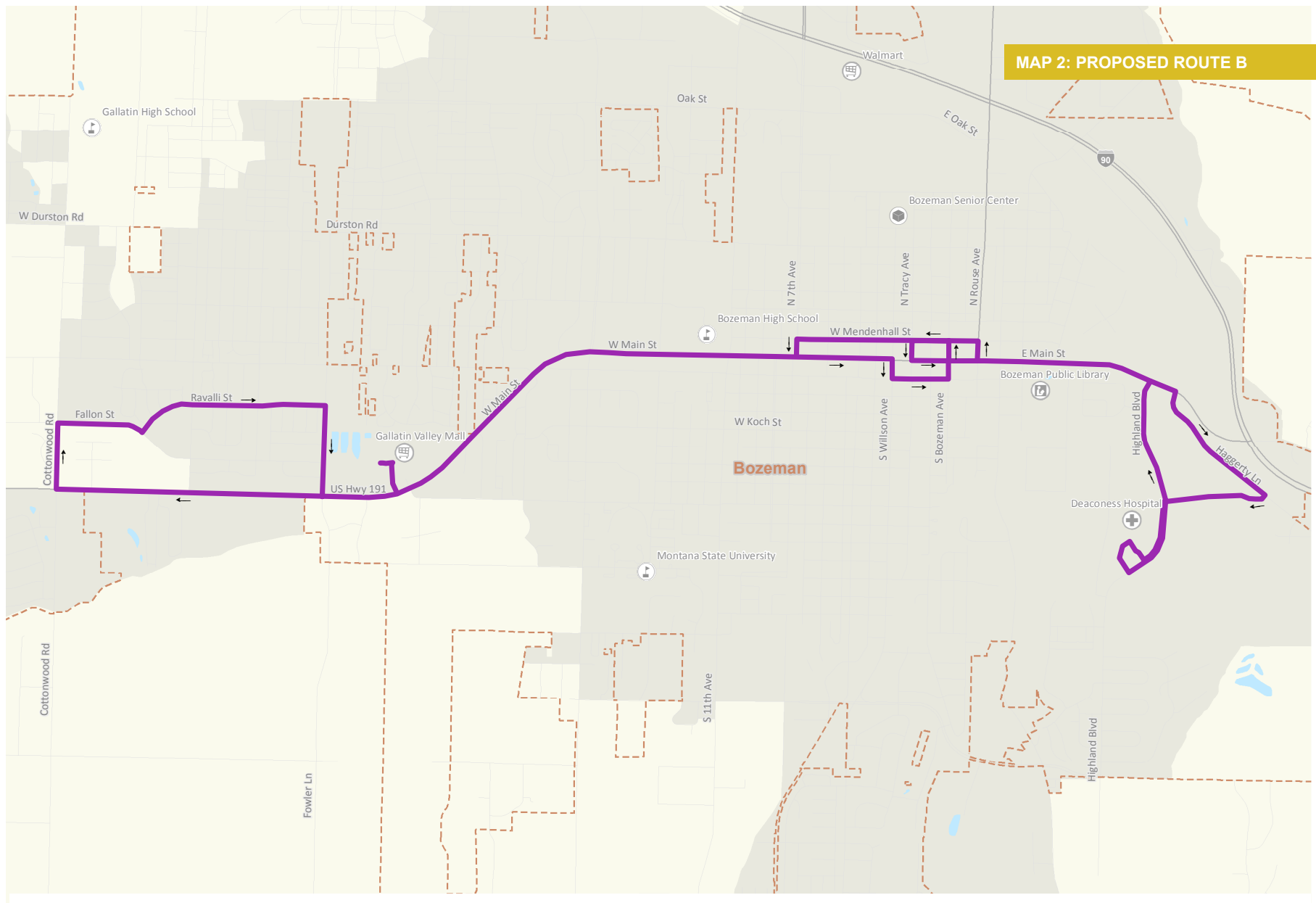


Proposed Weekday Route A

City Boundaries  
 USA Urban Areas

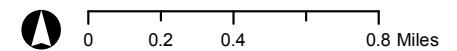


MAP 2: PROPOSED ROUTE B



Proposed Weekday Route B

City Boundaries  
USA Urban Areas





### Route C

This route connects MSU with Gallatin Valley Mall and West Bozeman residential areas (Map 3). Beginning at the MSU Strand Union Building the route will operate via Grant Street, S. 11th Avenue, and W. College Street to the Mall. From the Mall the route will make a one way loop via Huffine Lane, S. Fowler Avenue, Fallon Street, Ferguson Avenue, Durston Road, Hunters Way, W. Babcock Street, and W. Main Street back to the Mall. From the Mall the route will return to MSU via W. College Street, S. 11th Avenue, and Grant Street. This route will be interlined with Route A at MSU and connect with Route B at Gallatin Valley Mall. Unlike the current Yellow Line, this new route will serve the Gallatin Valley Mall in both directions providing better access to MSU for individuals using the park and ride at the Mall as well as students employed or wishing to shop at the Mall. Route A and C will be interlined at the MSU Strand Union Building. Passengers wishing to travel between the two routes may stay on the bus during its layover. Interlining is necessary because the round trip running time on Route A exceeds 60 minutes while the round trip running time on Route C is about 40 minutes. By interlining the shorter route with the longer route; one less bus is needed to provide the combined service.

In the long term plan, concurrent with the implementation of Route F (map 11) the one way loop segment will become bi-directional. Route G will replace the Hunters Way, Babcock, and Main Street segment while Route C will be extended via Durston to a terminal loop of 22nd Avenue, 19th Avenue back to Durston.

### Route D

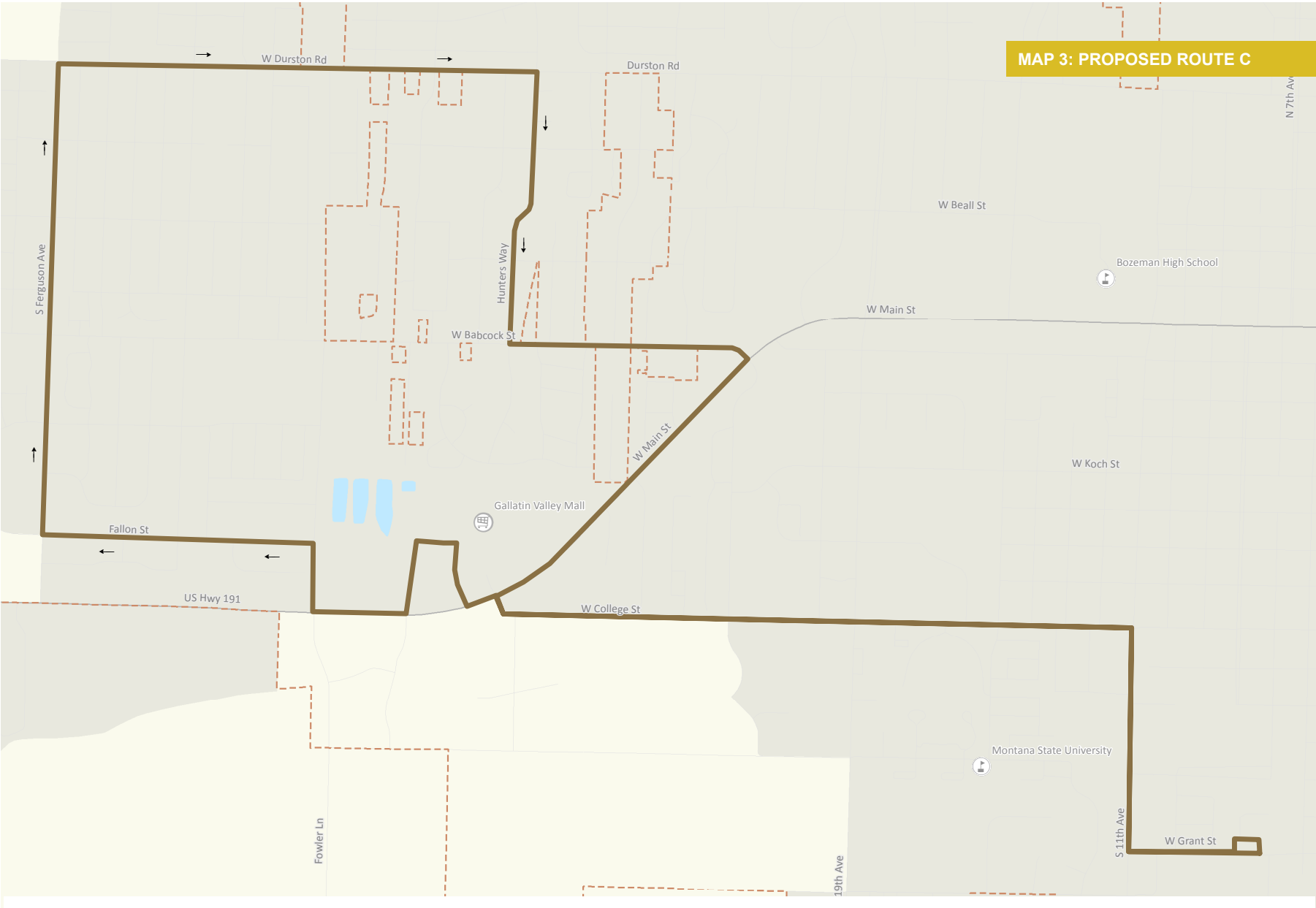
The proposed Route D will provide service to Belgrade (Map 4). Instead of operating through Four Corners the route will use the I-90 frontage road to access Belgrade. This will enable Streamline to directly serve neighborhoods in Belgrade without needing to cross the railroad tracks at grade and be subject to delays when long freight trains pass. Starting at Walmart this route will travel via W. Oak Street and N. 7th Avenue, continuing on the I-90 Frontage Road and W. Main Street in Belgrade to a one way terminal loop via N. Grogan Street, into Spooner Road, Triple Crown Road, Jack Rabbit Lane, and W. Main Street. The route will then return to Walmart in Bozeman by the reverse of the above Route. Route D will connect with Route A, Skyline Bus and Jefferson Line intercity buses at Walmart. The parking lot at Grace Lutheran Church can serve as a park and ride for customers not within walking distance of Route D.

Even though Route D operates close to Bozeman Airport, it is not recommended that it serve it in the short term. This limited schedule for Route D is not convenient for either airport employees or passengers and the extra time to serve the airport will inconvenience most Route D passengers. In the Long Term Plan if Route D service is increased to operate during the same service span as the other local routes the possibility of serving the airport in one direction should be explored. (There is insufficient time to serve the airport in both directions and maintain a 60 minute headway with one bus and make connections with Route A at Walmart.) If this is pursued serving the airport en route to Belgrade in the morning and en route to Bozeman in the afternoon would best accommodate customer demand and minimize inconvenience.



### Route E

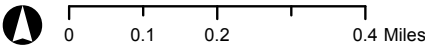
The proposed Route E will operate in the Additional Route (Map 12) and Long Term scenarios (Map 15). It will operate bi directionally between Downtown Bozeman and the new Gallatin High School serving the Public Safety Complex, Bozeman Senior Social Center, and the Northside of Bozeman High. From the Downtown Transit Center it will operate via N. Tracey Avenue, E. Babcock Street, N. Rouse Avenue, Tamarack Street, N. 7th Avenue, Durston Road, N. 27th Avenue, and W. Oak Street to Cottonwood Road. After turning at the round-about at W. Oak Street and Cottonwood Road the bus will return Downtown via the reverse of the above route except that it will use E. Mendenhall instead of E. Babcock Street. Route E will connect with Route A and B in Downtown and intersect with Route A at Oak and 7th Avenue.

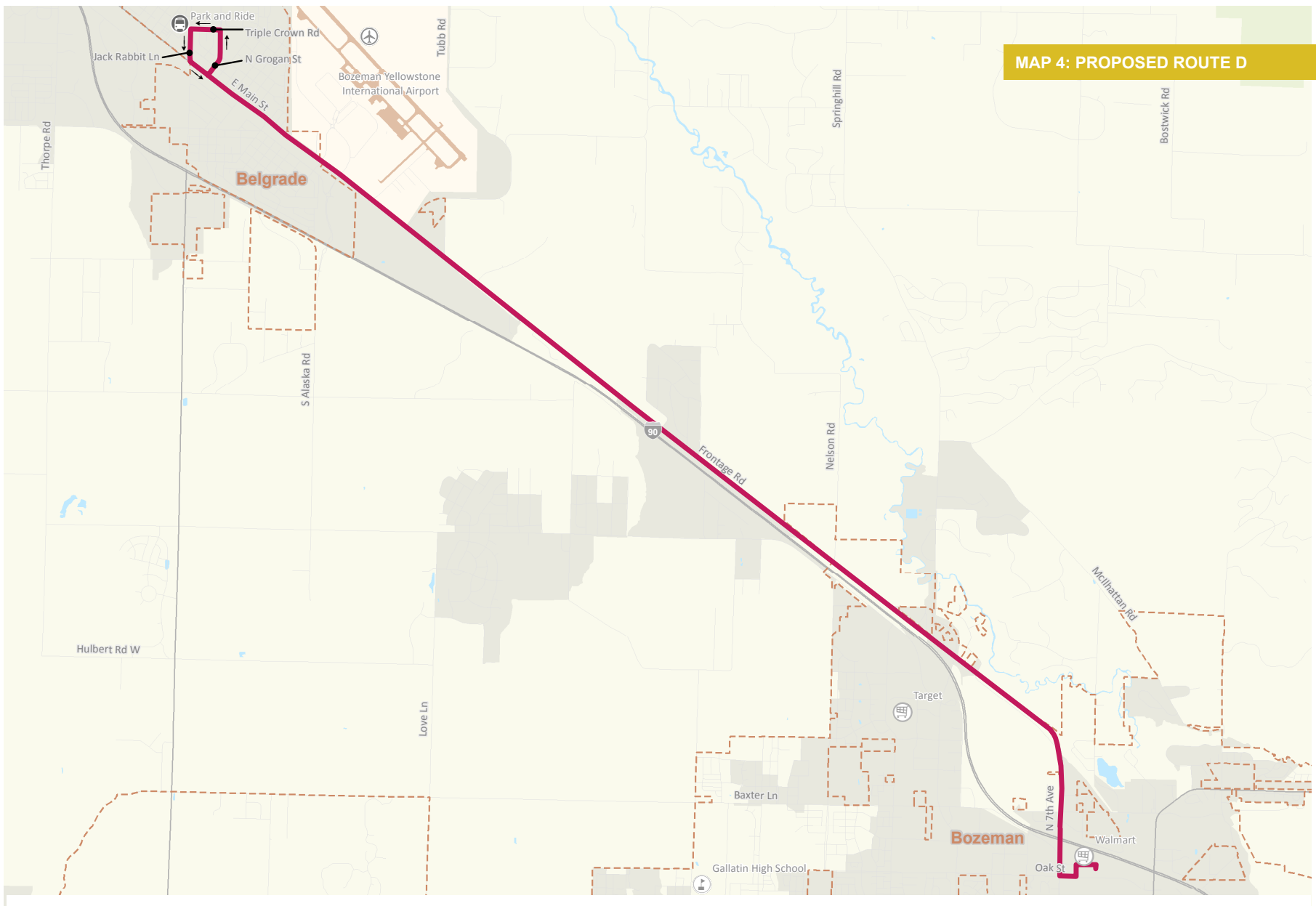
In the Long Term Plan Route E will be extended to MSU southbound via Mendenhall Street, S. 11th AVE and Grant Street to MSU Strand Union. Northbound the route will operate from MSU via Grant, S. 11th Avenue, Main Street, S. Willson Avenue, Babcock Street, Bozeman Avenue and Mendenhall Street to the Transit Center where it will continue via the above route to Gallatin High School. In the Long Term Plan Route E will also connect with Route A, C, and F at MSU and intersect with Route E at 27th and Durston and 27th and Oak.



Proposed Weekday Route C

 City Boundaries  
 USA Urban Areas

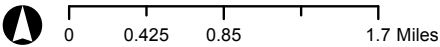




MAP 4: PROPOSED ROUTE D

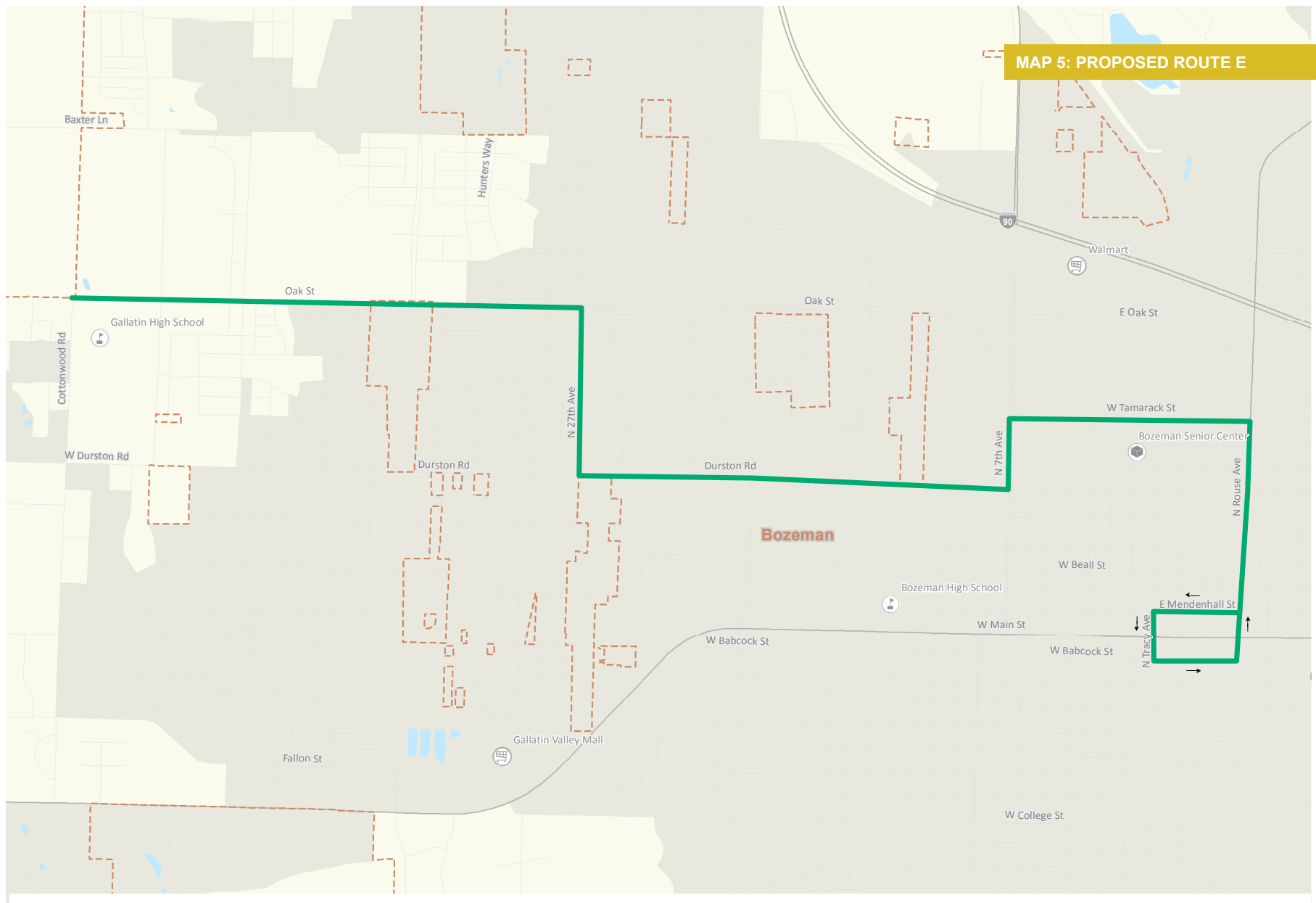
Proposed Weekday Route D

- City Boundaries
- USA Urban Areas





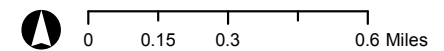


MAP 5: PROPOSED ROUTE E



Proposed Weekday Route E

 City Boundaries  
 USA Urban Areas



## Route F

Route F would operate only in the Long Term plan (Map 6). It will operate bi directionally between MSU and the Billings Clinic serving potential infill development along N. 27th Ave north of Oak Street. In conjunction with this route, Route C will be modified to provide two way service along a portion of the proposed one way loop in the Core Service and Additional Route scenarios, while Route F will provide two way service on the other portion of this loop. Both routes would operate between MSU and the Gallatin Valley Mall via the alignment proposed for Route C on a staggered headway to provide increased frequency along this segment. Route F would then operate via Main Street, W. Babcock Street, Hunters Lane, Durston Street, N. 27th Avenue, to a terminal loop via Valley Center Road, Catron Street, Max Avenue, and Cattail Street, back to N. 27th Avenue. This route will connect with Route A and E at MSU, Route A at Target and Route B at Gallatin Valley Mall. It will also intersect with Route E at 27th and Durston and 27th and Oak.

## Route G

Route G would operate only in the Long Term Plan (Map 7). It will operate bi directionally between Walmart and Story Mill Park on weekdays and it will be extended to the Drinking Horse Mountain and College M Trailheads. Beginning at Walmart this route will operate via Oak Street, N. 7th Avenue, W. Griffin Drive, and Bridger drive to Story Mill Park where on weekdays it will turn around in the parking lot. On weekends route G will be extended via Bridger Drive to both trailheads where it will run around in the College M parking lot. This route will serve the new Food Bank/Resource Hub/Year Round Warming Center planned to be located on Griffin Drive. Route G will be timed to connect with Route A and D at Walmart.

## LateNight Downtown

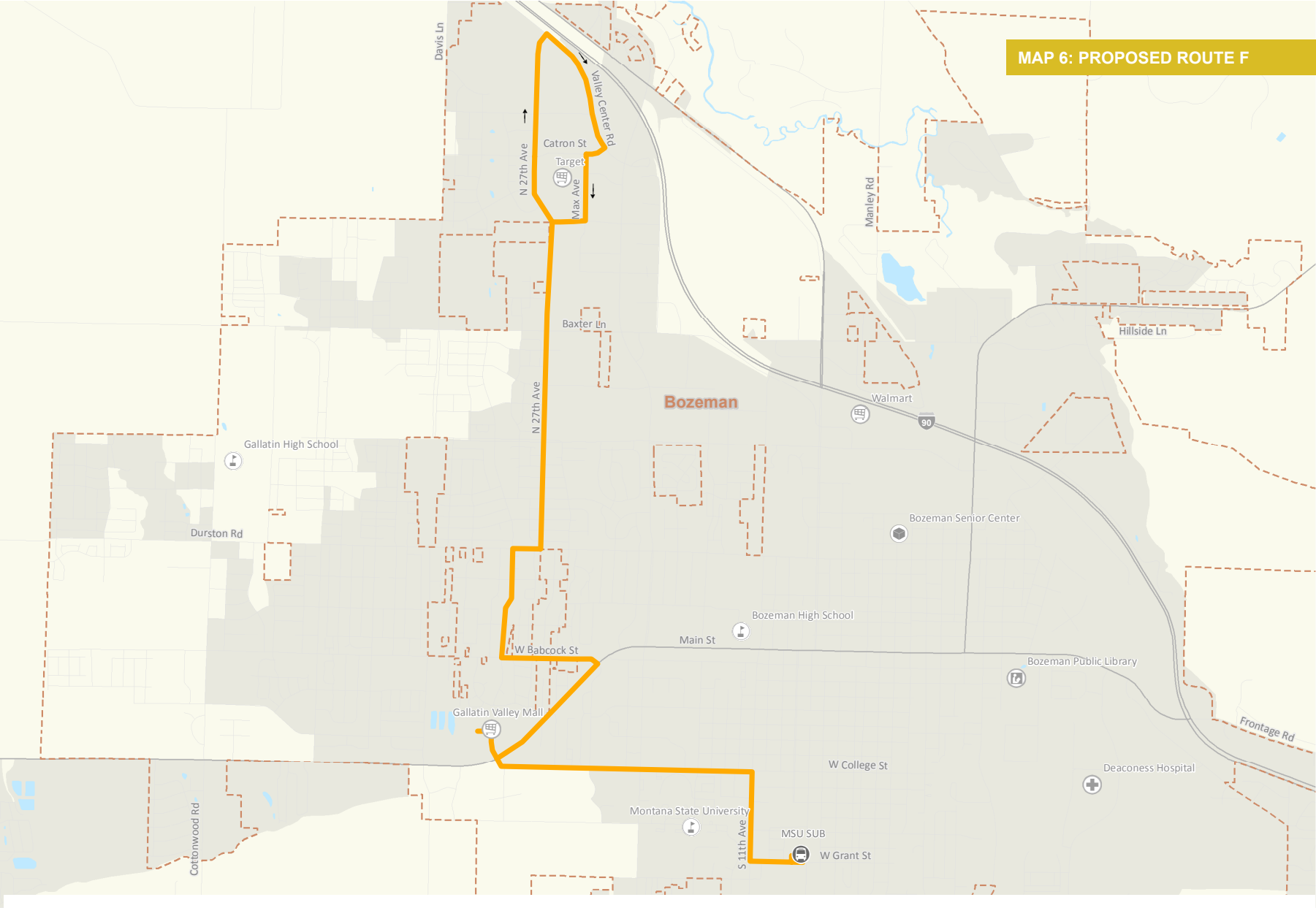
The existing LateNight Downtown Loop will continue to operate Thursday through Saturday during the school year via the current route. Although technically a one way loop it essentially connects Downtown with student residential areas around campus on a 30 minute headway and therefore does not subject passengers to 60 minute round trips that the existing daytime route design does.

## Livingston



The Livingston route currently averages 8 boardings per day; however can carry up to 35 boardings per day during bad winter weather. Because of its very low productivity during good weather it is recommended that this route only operate for half the year from mid-October to mid-April.

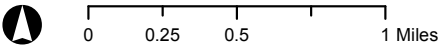
## Skyline Service to Four Corners

With the recommendation that the proposed bus route serving Belgrade (Route D) via the I-90 corridor instead of through Four Corners, it is recommended that HRDC develop an agreement with the Gallatin County Big Sky Transportation District, the operator of Skyline Bus to allow passengers to ride locally between Four Corners and Bozeman free of charge. Buses would use the existing Skyline Stop at Cardinal Distributing (near the existing Jack Rabbit/Shedhorn stops on the current Green Line) and stop at the current Green line stops on Huffine Lane near Arrowhead and Gooch Hill. It is also recommended that Skyline relocate their MSU stop to the Strand Union Building to connect with Streamline buses. This service can be supplemented by utilizing Galavan buses to pick up or drop off customers at any one of these three stop locations and connect with Streamline at the Gallatin Valley Mall or MSU at times that Skyline is not operating. In the Long Term Plan establishing a microtransit zone (see below) is recommended. If Four Corners is not part of a future UTD, a fare should be charge for travel on Four Corners microtransit service.

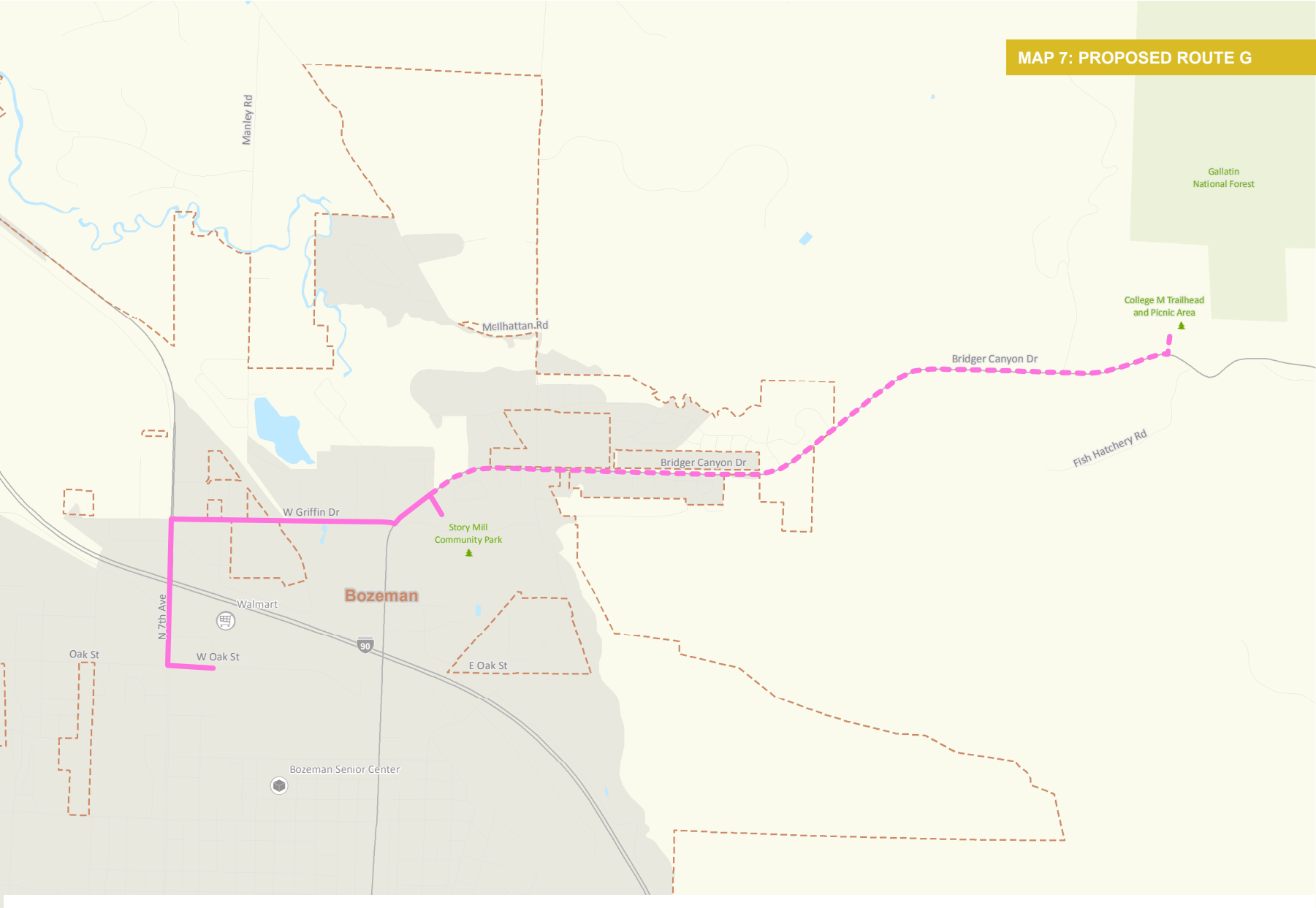


Proposed Weekday Route F

 City Boundaries  
 USA Urban Areas

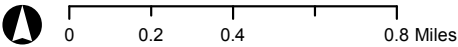






Proposed Weekday Route G

- Route G
- (weekend service)
- City Boundaries
- USA Urban Areas



## Microtransit

A common request in both the stakeholder interviews and online survey conducted as part of this project was the desire to expand the coverage of Streamline to serve both existing and potential development. As discussed under service strategies above, the density and/or design of much development is not supportive of fixed route transit. Microtransit can be an alternative to expand the reach of Streamline.

Microtransit is a form of demand-responsive transport. This transit service offers flexible routing and/or flexible scheduling of minibus vehicles. Possible pick-up/drop-off stops are restricted (usually within a geofenced area), and transit can be provided either as a stop-to-stop service or curb-to-curb service.

Dynamic scheduling and routing of microtransit service limit the productivity of microtransit. In a survey TMD conducted on microtransit services, productivity ranged from 2.42 to 7.5 boardings per hour. Therefore microtransit should be targeted to areas that may not support conventional fixed route services but still can generate ridership at the higher end of the productivity scale. Extending the reach of fixed route service, i.e. first and last mile connectivity, is a common application to microtransit.

To avoid over subscription of microtransit in Bozeman (over subscription will lead to longer wait times or the need to add vehicles and the associated cost to keep response times low) a fare should be charged. However if microtransit is used to replace fixed route service, concerns about fairness can arise; particularly if it is replacing free fixed route service. If service is provided for free it needs to be limited to clearly defined zones with a focus of connecting to fixed route service for access to the rest of the community.

For example under the Core Service Plan, a zone bounded by Main Street, Wallace Avenue, Tamarack Street and N. 7th Avenue, would allow for connections to Route A and B at Black and Mendenhall. A second zone bounded by Durston Road, N. 27th Avenue, Baxter Lane and N. 19th Avenue that would transport passengers to Gallatin Valley Mall for connections with Route B and C. The zones would replace the fixed route service on the existing Blue line and Red line in the Core Service plan. In the Additional Route plan there would be no need for the establishment of these zones as they will be replaced by a new fixed route.

In the longer term microtransit could be designed to serve River Rock and Belgrade providing for internal trips within the area and connections with Route D. Other areas particularly south of MSU, Four Corners and other areas in West Bozeman could be also be possible microtransit zones.

There are several options for implementing microtransit including national specialty firms or a local provider like Galavan. If Galavan is used to provide microtransit software and hardware will likely need to be acquired to provide general public microtransit. This can benefit existing Galavan customers by eliminating the need to for making advance reservations. Customers with a smart phone could book rides using an app installed on their phone. Those without a smart phone or who feel more comfortable making reservations over the phone could call the dispatch center, where the customer service agents would use the app to book the trip. Because fewer calls will be received it may be possible to reduce cost of the reservation center.

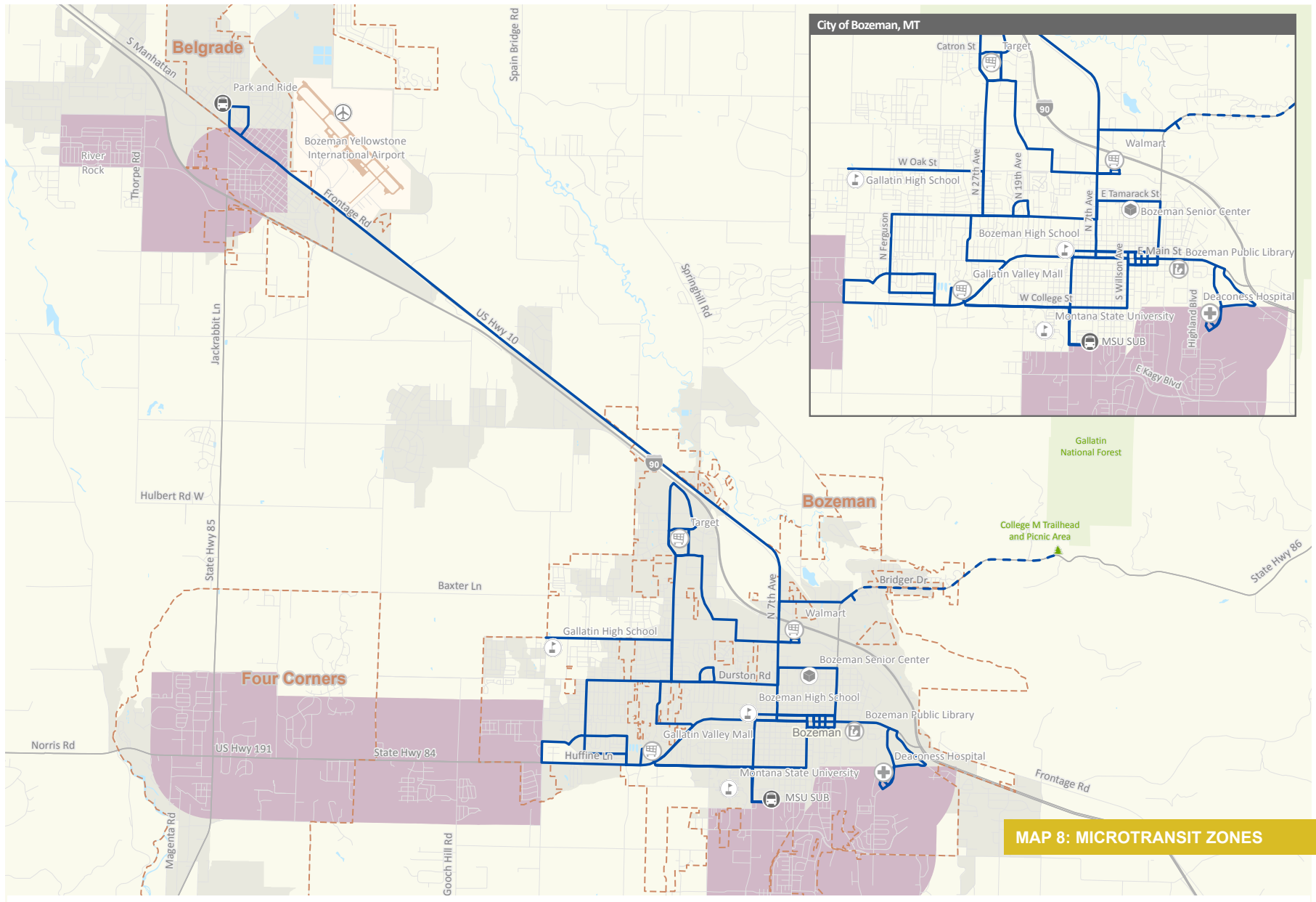
The one-time cost of acquiring hardware and software is \$20,000 to \$50,000. The annual cost of licensing and maintenance is \$30,000 to \$60,000. Operating and capital cost are reflected in Table 11 (Operating) and Table 12 (Capital).

## Vanpool from Three Forks and Manhattan

HRDC should determine if there is interest in establishing vanpools for residents of Three Forks and Manhattan. Vanpools would be most effective if there is a common destination such as MSU, Deaconess Hospital or Downtown Bozeman.

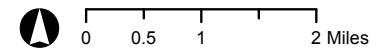
## Bridger Bowl Service

No change planned. Continued operation of service is contingent on retaining funding specifically for this service.



## Microtransit Zones

- Streamline Long Term Network
- Microtransit Zones
- City Boundaries
- USA Urban Areas





## CORE SERVICE PLAN

This scenario assumes flat funding and is implementable within HRDC's existing funding envelope. The focus of this scenario is to improve the current Streamline network by providing bi-directional service on four year-round routes.

### Key elements of the Core Service plan:

- » All four year-round routes run bi-directional service.
- » Major Transfer Locations:
  - Gallatin Valley Mall (Route B and C)
  - Mendenhall and Black (Route A and B)
  - Walmart (Route A and D)
- » Buses arrive once every 60 minutes at each stop on Route A, B, and C with 30-minute service during weekday peak periods.
- » Route D will have five round trips on weekdays.
- » Route A and C will operate for about 15 hours on weekdays (EX: 6:30am to 9:30pm).
- » Route B will operate for about 13 hours on weekdays (EX: 6:30am to 7:30pm).
- » Route A, plus segments of Route B and C will operate for about 11 hours on Saturdays and Sundays (EX: 8:00am to 7:00pm).
- » LateNight Downtown will continue operating as current. LateNight Upstream will be discontinued with hours reallocated to later service on Route A and C Monday through Friday.

<sup>10</sup> Service spans listed are for illustrative purposes only. Schedules have not been developed at this time.

<sup>11</sup> Operates only between Gallatin Valley Mall and Deaconess Hospital

<sup>12</sup> Operates only between Gallatin Valley Mall and MSU

<sup>13</sup> Thursday and Friday only

<sup>14</sup> One mid-day trip weekdays

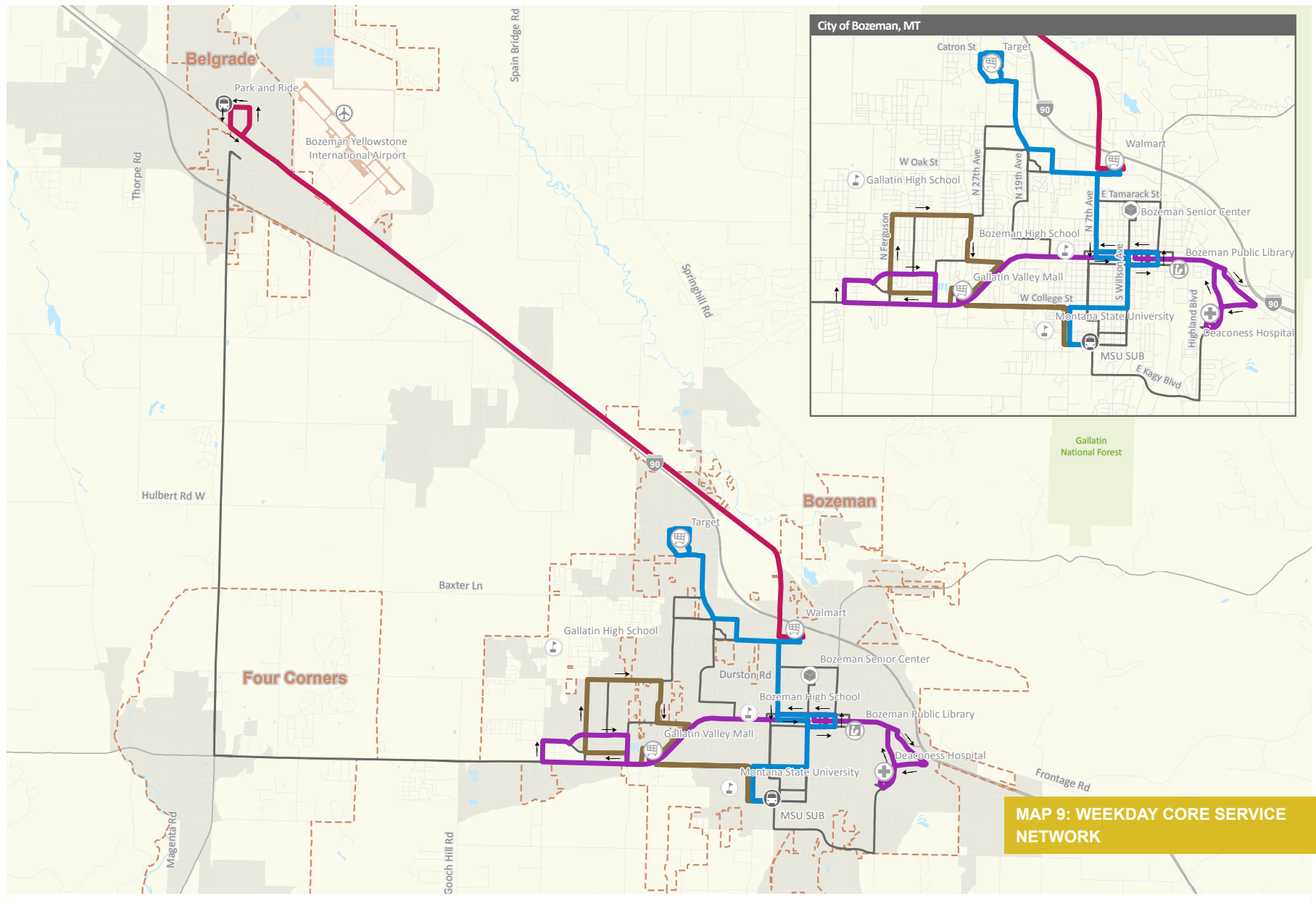
<sup>15</sup> This route operates in the evening only, therefore the bus used to serve this route is not included in the peak bus total.

**TABLE 3: CORE SERVICE SUMMARY**  
Service Availability

ROUTE	FREQUENCY			SERVICE SPAN <sup>10</sup>		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
A	30/60	60	60	6:30am-9:30pm	8am-7pm	8am-7pm
B	30/60	60 <sup>11</sup>	60 <sup>4</sup>	6:30am-7:30pm	8am-7pm	8am-7pm
C	30/60	60 <sup>12</sup>	60 <sup>5</sup>	6:30am-9:30pm	8am-7pm	8am-7pm
D	5 trips	-	-	6:30am-7:30pm	-	-
Livingston	1 trip			AM Inbound/ PM Outbound		
LateNight Downtown	30 <sup>13</sup>	30	-	8pm-2:30am		

**TABLE 4: CORE SERVICE SUMMARY**  
Service Availability

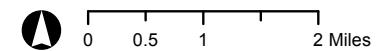
ROUTE	REVENUE HOURS	REVENUE MILES	YEAR ONE ANNUAL OPERATING COST	PEAK BUSES	MID-DAY AND WEEKEND BUSES
A	6,310	91,495	442,583	2	1
B	5,800	75,516	406,812	2	1
C	6,055	53,223	424,698	2	1
D	1,275	25,487	89,429	1	1 <sup>14</sup>
Livingston	510	30,212	35,771	1	
LateNight Downtown	2,125	24,204	149,031	1 <sup>15</sup>	
<b>Total</b>	<b>22,075</b>	<b>300,138</b>	<b>1,548,324</b>	<b>8</b>	<b>3</b>



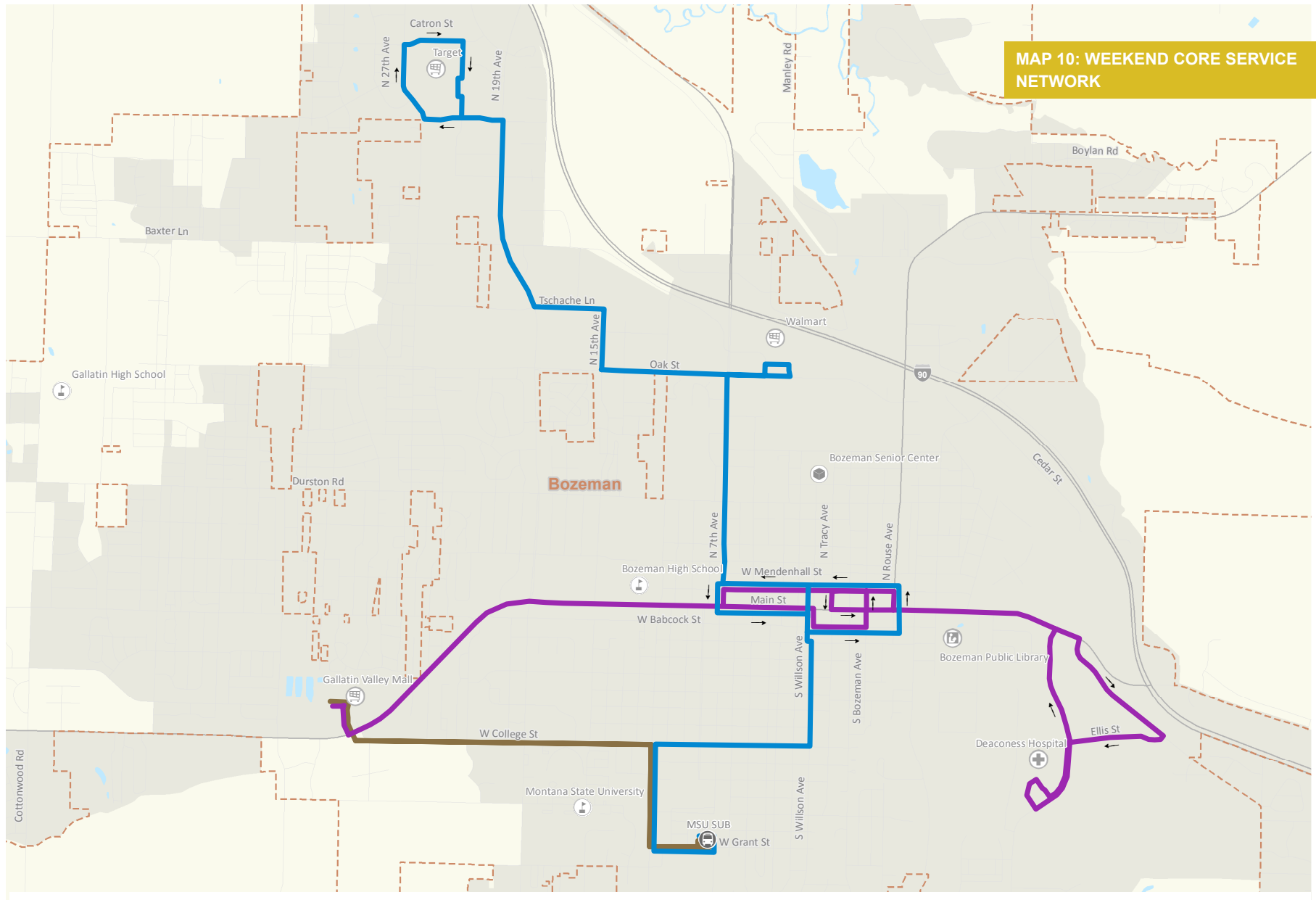
**MAP 9: WEEKDAY CORE SERVICE NETWORK**

## Proposed Routes

- Proposed Weekday Routes**
- Route A
  - Route B
  - Route C
  - Route D
  - Streamline 2020 Weekday Network
  - City Boundaries
  - USA Urban Areas



**MAP 10: WEEKEND CORE SERVICE NETWORK**

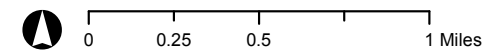


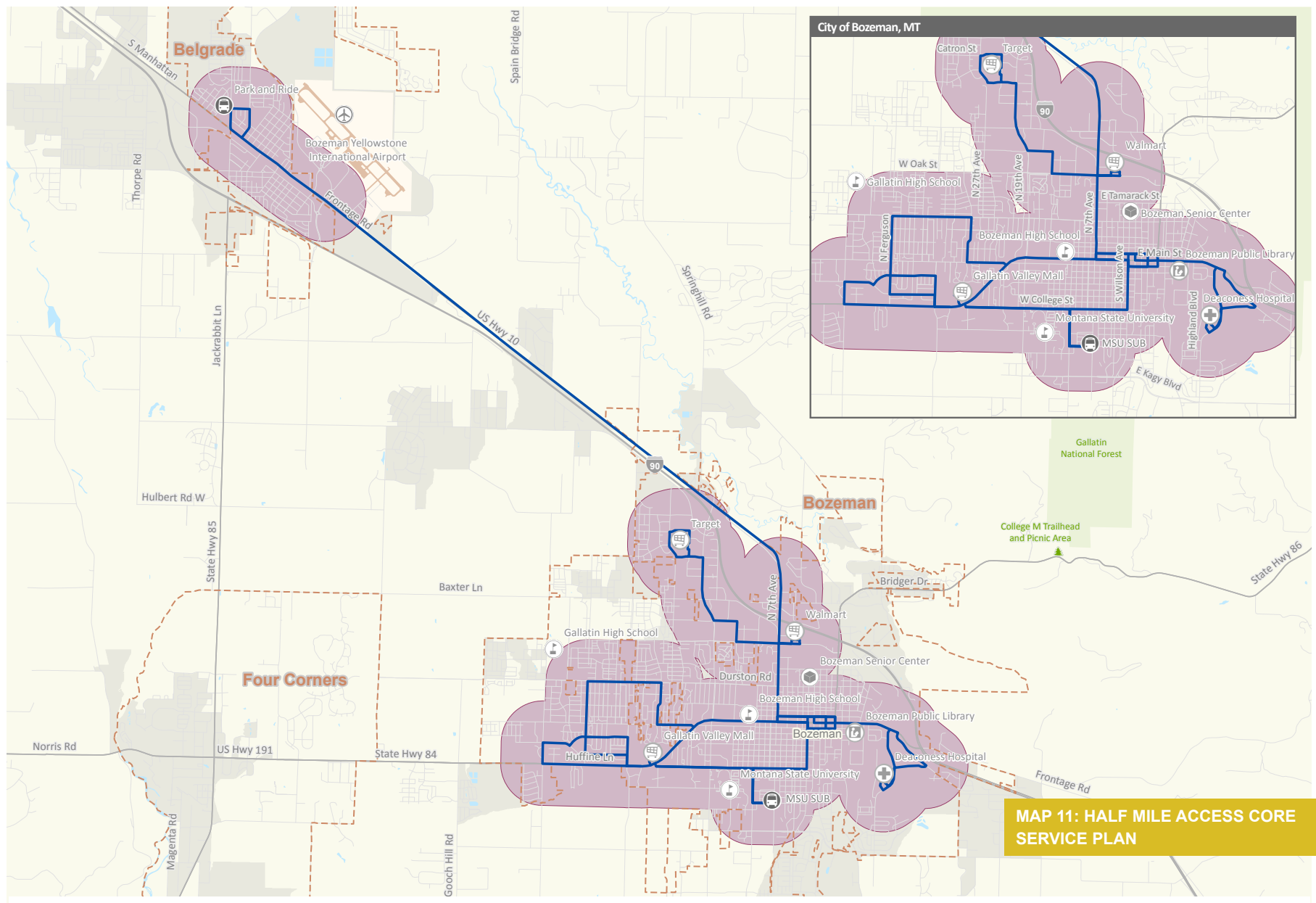
## Weekend Proposed Core Service

### Proposed Weekday Routes

- Route A
- Route B
- Route C

- City Boundaries
- USA Urban Areas

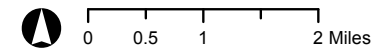




**MAP 11: HALF MILE ACCESS CORE SERVICE PLAN**

## Half-Mile Access from Streamline Proposed Core Network

- Proposed Core Network
- City Boundaries
- Half-Mile Buffer
- USA Urban Areas





## ADDITIONAL ROUTE SERVICE PLAN

This scenario assumes a modest increase in funding to support a fifth route. In this scenario all five year-round routes have bi-directional service.

### Key elements of the Additional Route plan:

- » All five year-round routes run bi-directional service.
- » Major Transfer Locations:
  - Gallatin Valley Mall (Route B and C)
  - Mendenhall and Black (Route A, B, and E)
  - Walmart (Route A and D)
- » Buses arrive once every 60 minutes at each stop on Route A, B, C, and E with 30-minute service during weekday peak periods.
- » Route D will have five round trips on weekdays.
- » Route A and C will operate for about 15 hours on weekdays (EX: 6:30am to 9:30pm).
- » Route B, D, and E will operate for about 13 hours on weekdays (EX: 6:30am to 7:30pm).
- » Route A and E, plus segments of Route B and C will operate for about 11 hours on Saturdays and Sundays (EX: 8am to 7pm).
- » LateNight Downtown will continue operating as current. LateNight Upstream will be discontinued with hours reallocated to later service on Route A and C Monday through Friday.

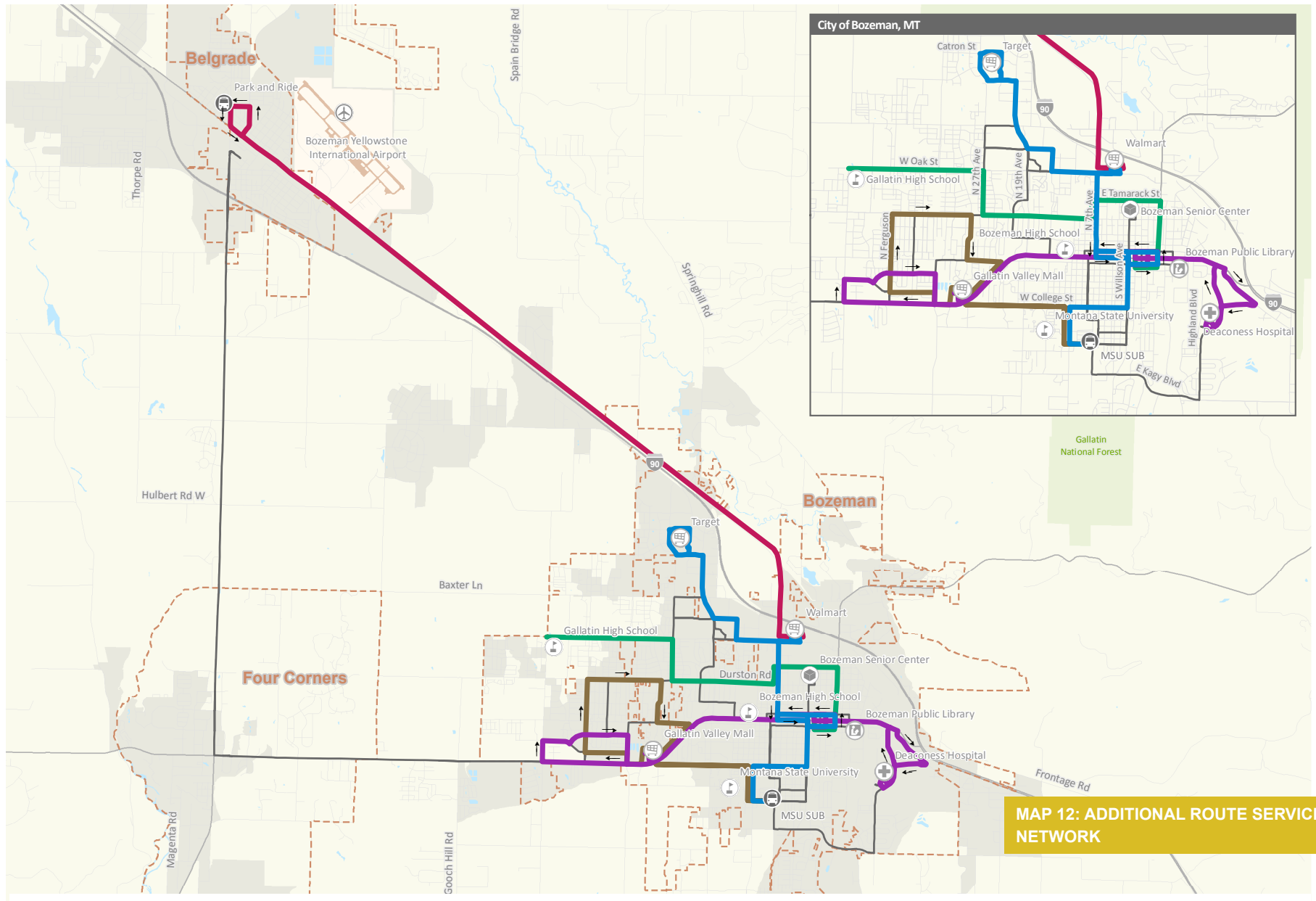
<sup>16</sup> Route D will have one mid-day trip on weekdays only. Route B and C will share one bus on weekends.

**TABLE 5: ADDITIONAL ROUTE SERVICE SUMMARY**  
Service Availability

ROUTE	FREQUENCY			SERVICE SPAN <sup>10</sup>		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
A	30/60	60	60	6:30am-9:30pm	8am-7pm	8am-7pm
B	30/60	60 <sup>11</sup>	60 <sup>11</sup>	6:30am-7:30pm	8am-7pm	8am-7pm
C	30/60	60 <sup>12</sup>	60 <sup>12</sup>	6:30am-9:30pm	8am-7pm	8am-7pm
D	5 trips		-	6:30am-7:30pm	-	-
E	60	60	-	6:30am-7:30pm	8am-7pm	8am-7pm
Livingston	1 trip			AM Inbound/ PM Outbound		
LateNight Downtown	30 <sup>13</sup>	30	-	8pm-2:30am	8pm-2:30am	

**TABLE 6: ADDITIONAL ROUTE SERVICE SUMMARY**  
Service Statistics

ROUTE	REVENUE HOURS	REVENUE MILES	YEAR ONE ANNUAL OPERATING COST	PEAK BUSES	MID-DAY AND WEEKEND BUSES
A	6,310	91,495	442,583	2	1
B	5,800	75,516	406,812	2	1
C	6,055	53,223	424,698	2	1
D	1,275	25,487	89,429	1	1
E	5,545	57,169	388,926	2	1
Livingston	510	30,212	35,771	1	
LateNight Downtown	2,125	24,204	149,031	1	
<b>Total</b>	<b>27,620</b>	<b>357,307</b>	<b>1,937,251</b>	<b>10</b>	<b>4<sup>16</sup></b>



**MAP 12: ADDITIONAL ROUTE SERVICE NETWORK**

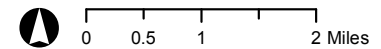
## Proposed Routes

### Proposed Weekday Routes

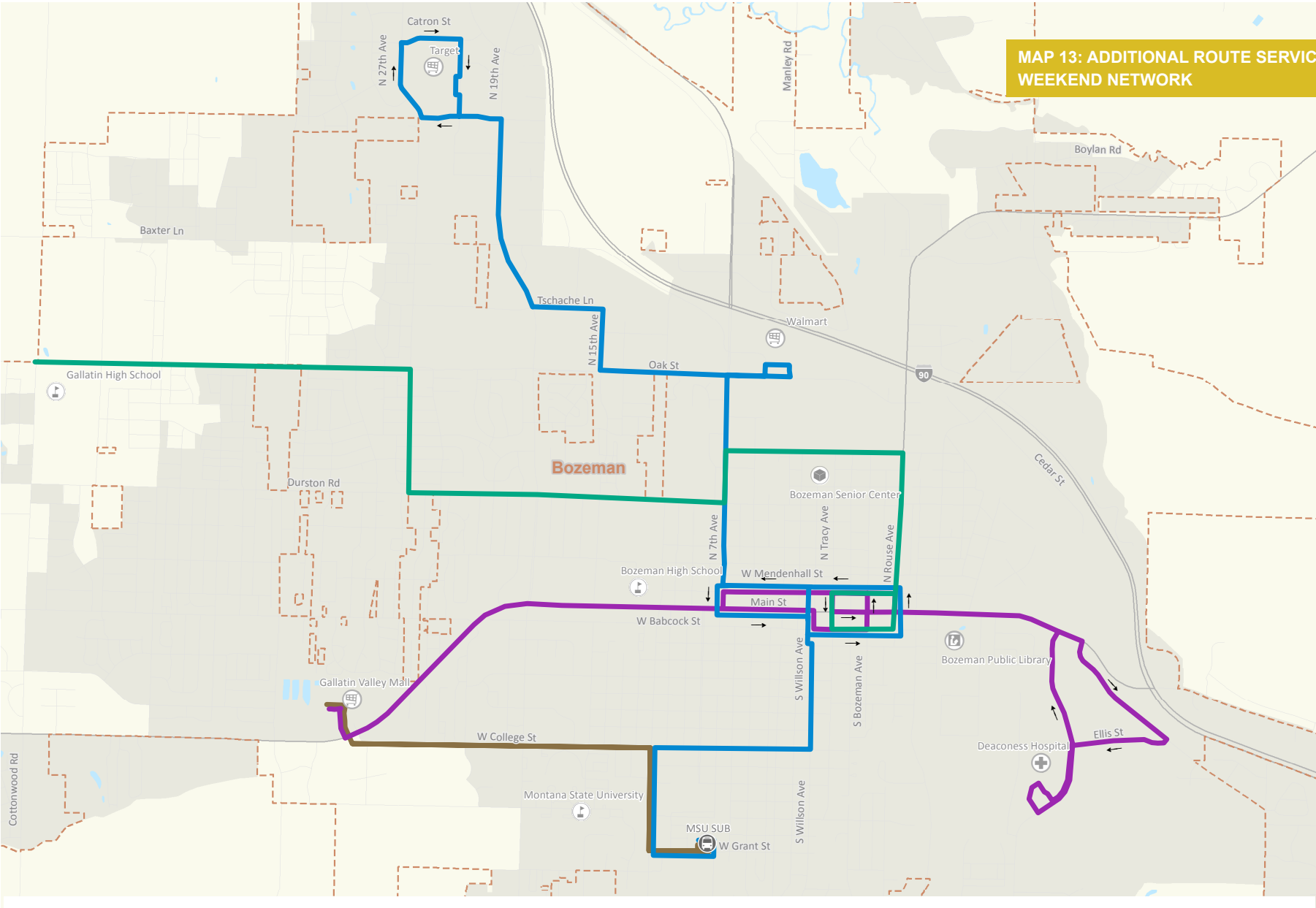
- Route A    Route C    Route E
- Route B    Route D

### Streamline 2020 Weekday Network

- City Boundaries
- USA Urban Areas

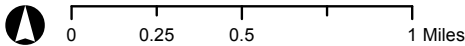


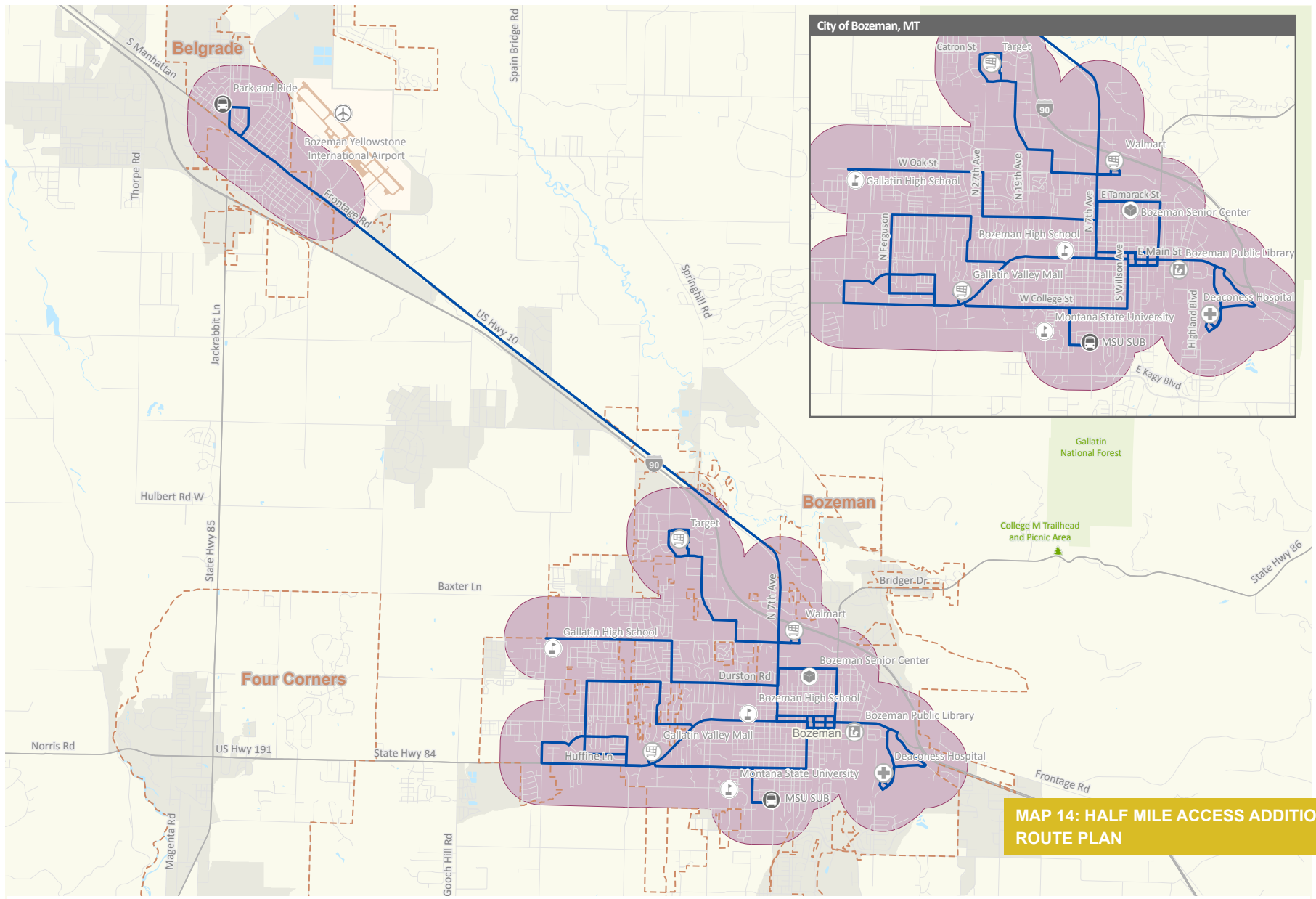
**MAP 13: ADDITIONAL ROUTE SERVICE WEEKEND NETWORK**



**Weekend Proposed Core Service**

- Proposed Weekday Routes**
- Route A
  - Route B
  - Route C
  - Route D
  - Route E
- City Boundaries
- USA Urban Areas

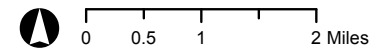




**MAP 14: HALF MILE ACCESS ADDITIONAL ROUTE PLAN**

## Half-Mile Access for Streamline Additional Route Scenario

- Proposed Additional Route Scenario
- Half-Mile Buffer
- City Boundaries
- USA Urban Areas



## LONG TERM SERVICE PLAN

This scenario assumes an increase in funding levels that would allow HRDC to expand service levels beyond current operations. In this scenario, two additional year-round routes are added to the network and all year-round routes have bi-directional service. Weekday and weekend service hours are significantly increased. The optimum plan is presented here.

The meetings with Stakeholders and the responses to the survey indicated a strong desire to expand the areas covered by Streamline. However, the existing areas that are unserved with fixed route service and much of the growth will not have sufficient density to support all day fixed route transit. One new route is designed to serve an area targeted for higher density development and the new Billings Clinic while another route will serve a new mixed use development serving vulnerable populations and a regional park. Microtransit could be deployed in other areas such as River Rock in Belgrade. River Rock is an example of a development that will have a mix of housing that could support transit, but the isolated nature of the development makes microtransit a better option for the short to medium term. If the area grows considerably with a mix of housing types and consistent densities of over 7 dwelling units per acre a fixed route serving the area could be warranted.

Microtransit is also suggested for the area south of MSU in Bozeman and Four Corners. If the growth south of MSU results in density and urban form more supportive of fixed route service, a route connecting with Routes A, C, E, and F at MSU could provide 30 minute service for about the same cost as microtransit.

The Four Corners area is less likely to develop into an area supportive of fixed route service. However development on the western periphery of Bozeman will need to be monitored for potential implementation of microtransit or if urban form and

**TABLE 7: LONG TERM SERVICE SUMMARY**  
Service Availability

ROUTE	FREQUENCY			SERVICE SPAN <sup>2</sup>		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
A	30 all day/60 evening	30	60	6am-10pm	8am-8pm	8am-8pm
B	30 all day/60 evening	30	60	6am-10pm	8am-8pm	8am-8pm
C	30 all day/60 evening	30	60	6am-10pm	8am-8pm	8am-8pm
D	60	60	60	6am-10pm	8am-8pm	8am-8pm
E	30 all day/60 evening	30	60	6am-10pm	8am-8pm	8am-8pm
F	30 all day/60 evening	30	60	6am-10pm	8am-8pm	8am-8pm
G	30	60	60	7am-7pm	8am-7pm	8am-7pm
Livingston	1 trip			AM Inbound/ PM Outbound		
LateNight Downtown	30 <sup>13</sup>	30	-	10pm-2:30am	8pm-2:30am	
South Bozeman Microtransit	On-demand	On-demand	On-demand	6am-10pm	8am-8pm	8am-8pm
River Rock Microtransit	On-demand	On-demand	On-demand	6am-10pm	8am-8pm	8am-8pm
Four Corners Microtransit	On-demand	On-demand	On-demand	6am-10pm	8am-8pm	8am-8pm

density support extending Route B or Route E to serve new development. This increases operating costs beyond what is proposed in this plan, however that could be partially offset by increased property values in that area.

Service to the airport may be justified once the Route D begins operating all day seven days per week.

However as stated above in the description of Route D it would be served in one direction (toward Belgrade in the AM and toward Bozeman in the PM) to maintain connections with other routes and maintain a 60 minute frequency.

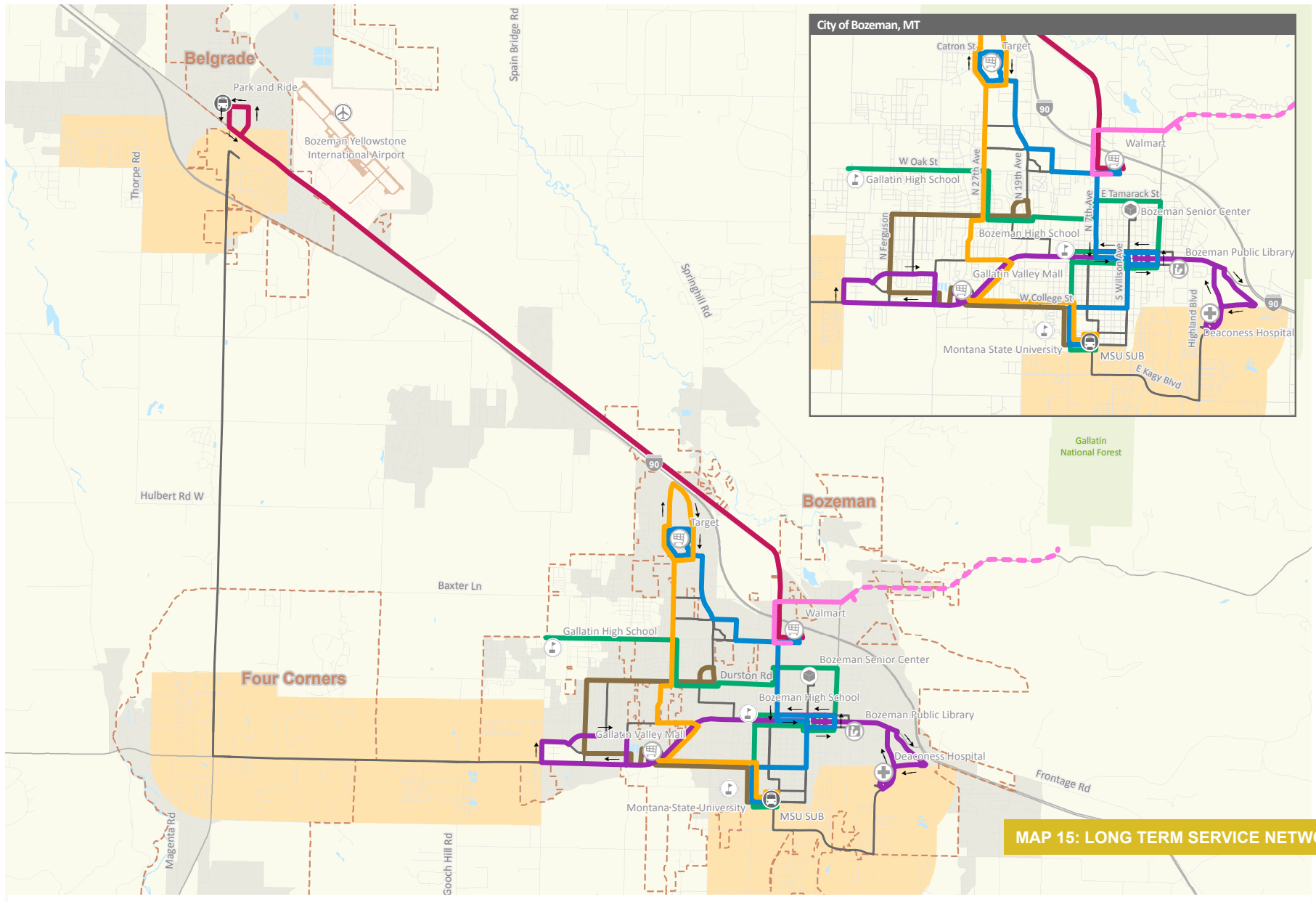


**TABLE 8: LONG TERM SERVICE SUMMARY**  
Service Statistics

ROUTE	REVENUE HOURS	REVENUE MILES	YEAR ONE ANNUAL OPERATING COST	PEAK BUSES	MID-DAY AND WEEKEND BUSES
A	9,594	139,113	672,923	2	1
B	9,594	124,914	672,923	2	1
C	9,594	84,331	672,923	2	1
D	5,400	107,946	378,756	1	1
E	9,594	141,703	672,923	2	1
F	9,594	123,859	672,923	2	1
G	3,211	35,443	225,213	1	1
Livingston	510	30,212	35,771	1	
LateNight Downtown	1,536	17,502	107,769	1	
South Bozeman Microtransit	5,400	64,800	378,756	1	1
River Rock Microtransit	5,400	64,800	378,756	1	1
Four Corners Microtransit	5,400	64,800	378,756	1	1
<b>Total</b>	<b>74,827</b>	<b>999,423</b>	<b>5,248,393</b>	<b>16</b>	<b>10</b>

#### Key elements of the Long Term plan:

- » All seven year-round routes run bi-directional service.
- » Major Transfer Locations:
  - Gallatin Valley Mall (Route B, C, and F)
  - Mendenhall and Black (Route A, B, and E)
  - MSU (Route A, C, E, and F)
  - Walmart (Route A, D, and G)
  - Target (Route A and F)
- » Buses arrive once every 30 minutes at each stop except on route D which will run every 60 minutes.
- » All routes run for 16 hours on weekdays (EX: 6am-10pm) year-round except Route G (12 hours).
- » All routes run for 12 hours on Saturdays and Sundays (EX: 8am-8pm) year-round except Route G (11 hours).
- » LateNight Downtown route is reduced to start operations at 10pm on Thursday and Friday when other routes stop operating.



MAP 15: LONG TERM SERVICE NETWORK

## Proposed Routes

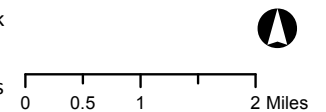
### Proposed Weekday Routes

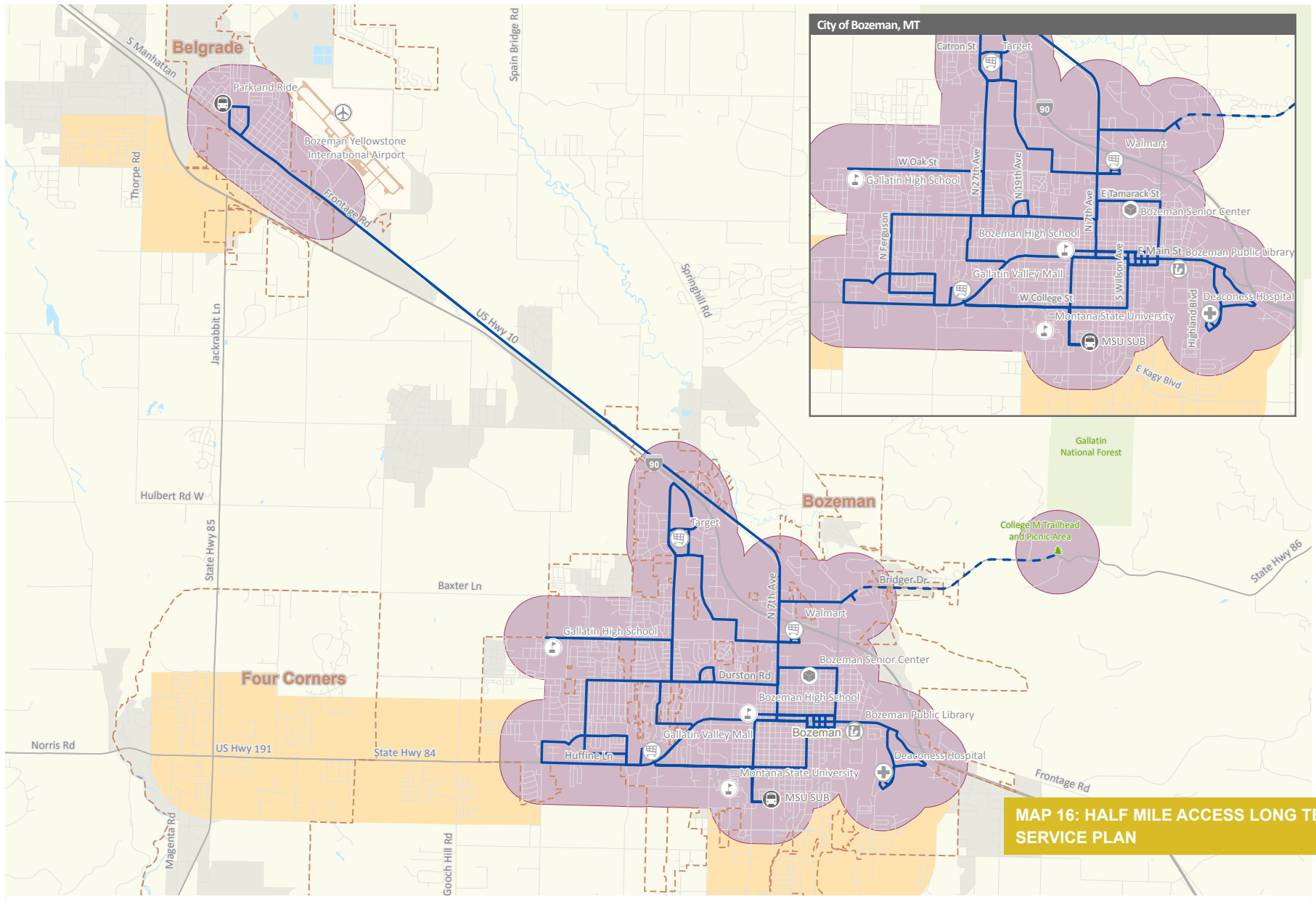
- Route A    Route C    Route E    Route G
- Route B    Route D    Route F    (weekend service)

### Streamline 2020 Weekday Network

- Microtransit
- City Boundaries

- USA
- Urban Areas

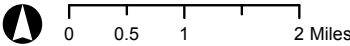




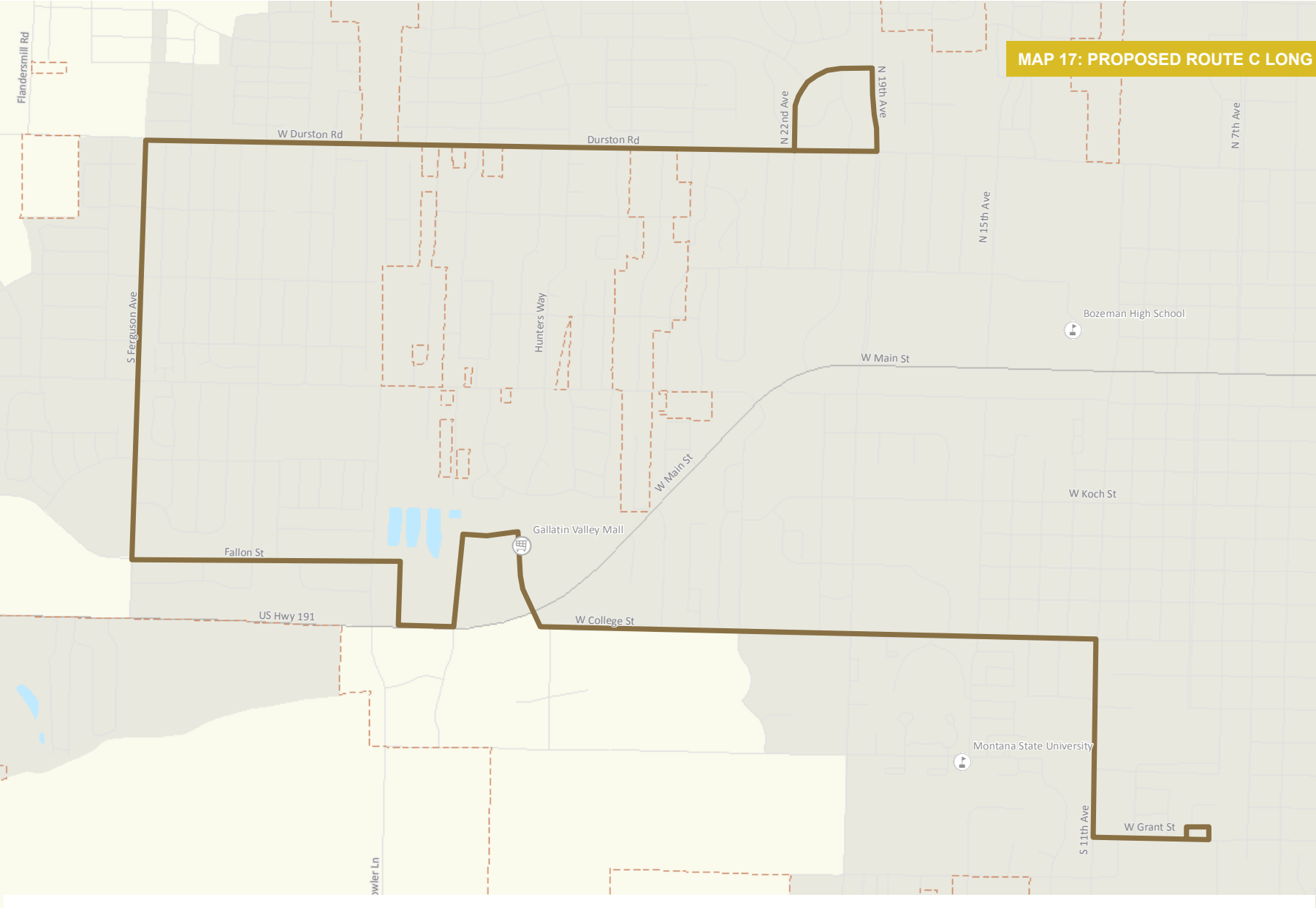
**MAP 16: HALF MILE ACCESS LONG TERM SERVICE PLAN**

# Half-Mile Access from Streamline Long Term Network

- Streamline Long Term Network
- Half-Mile Buffer
- Microtransit Zones
- City Boundaries
- USA Urban Areas

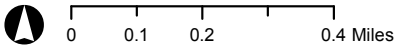


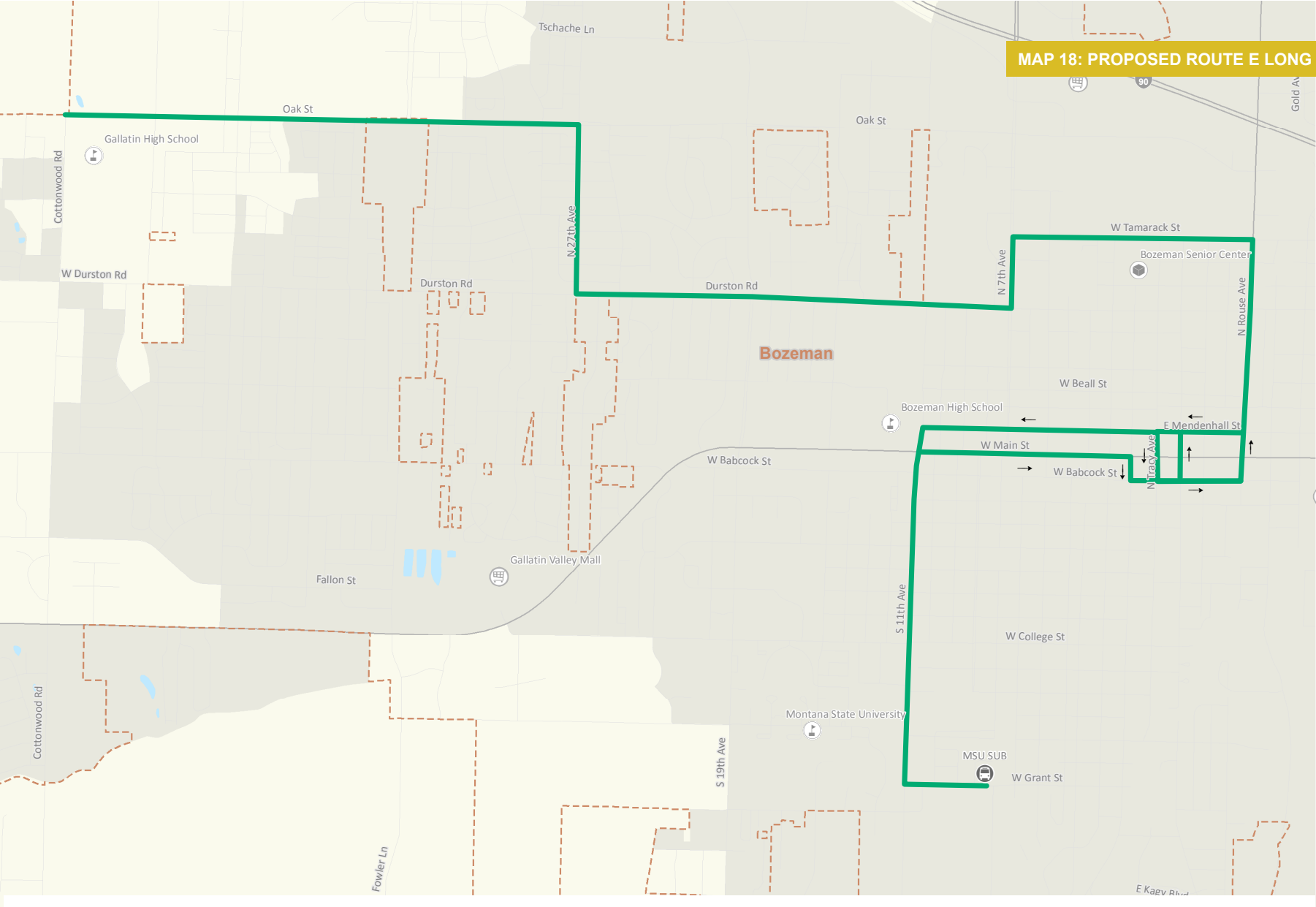
MAP 17: PROPOSED ROUTE C LONG TERM



Proposed Weekday Route C

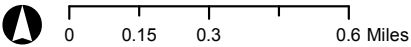
- City Boundaries
- USA Urban Areas





Proposed Weekday Route E

City Boundaries  
USA Urban Areas





## TRAVEL TIME COMPARISON

The table below compares travel time between select origin/destination pairs under the current network and the proposed network. Because the current network contains one way loops (except for the Green Line); the fastest one way time is shown on the left side of table, while the round trip travel time (since most passengers will need to make a round trip) is shown on the right. Except for an exception noted in the table, the travel times are the same under all three scenarios.

TABLE 9: COMPARISON OF TRAVEL TIME

O/D PAIR	FASTEST ONE WAY TRAVEL TIME			ROUND TRIP TRAVEL TIME		
	Current	Proposed	Difference	Current	Proposed	Difference
Belgrade - Walmart	56	25	31	124	50	74
Belgrade - MSU	33	47	14	65	94	29
Belgrade - Downtown Bozeman	47	40	7	90	79	11
MSU - Walmart	18	17	1	54	36	18
MSU - Babcock/Main Street	19	26	7	50	40	10
MSU - Hunters Way/Durston	30	22	8	50	40	10
Gallatin Valley Mall - 7th/Main Street	10	8	2	29	16	13
Downtown Bozeman - Deaconess Hospital	20	18	2	60	39	21
Downtown Bozeman - Cottonwood/Fallon	30	12	18	52	24	28
Senior Center - 27th/Oak <sup>17</sup>	44	8	36	88	16	72

<sup>17</sup> Additional Route and Long Term Scenario only

# Implementation Plan

## SHORT TERM PLAN

Upon adoption of the Transit Development Plan, HRDC should continue to work with stakeholders and community members to ensure the successful implementation of the service recommendations, either Core Service or Additional Route scenarios, in August 2021. Key next steps include the following:

- » Confirm route alignment changes with municipalities and address any issues not brought forth during the development of this plan
- » Develop detailed schedules for each proposed route
- » Conduct a stop audit to determine best location and improvements needed at each location
- » Identify the various elements in the capital program to support the network scenarios
- » Develop a strategy for informing the community of the changes and encouraging new customers to use the service
- » Redesign public information materials (schedules, maps, how to use the system) both online and hard copy to improve customer understanding of the system

Due to the directness of the proposed routes and improvements in frequency and span, it is anticipated that the proposed recommendations will generate additional ridership by encouraging existing riders to take more trips on transit and by attracting new customers.

The second step is to convene community stakeholders to develop a strategy for creating a UTD. While a UTD

can be established even if the census does not result in an urban designation for Bozeman; it is essential if Bozeman becomes an urbanized area as HRDC will no longer be eligible to receive federal transit funds. (A UTD could still contract with HRDC to manage the transit program or it could manage the service with its own staff.)

## LONG TERM PLAN

### Key steps for pursuing the Long Term Plan

- » Establish a working group of stakeholders to develop the strategy for creating a UTD (2021). Tasks of this group include:
  - Determine the boundaries of the UTD
  - Determine the tax rate of the UTD
  - Survey the community and conduct focus groups to test receptiveness to potential UTD scenarios (boundaries and rates) based on service recommendations in this plan
  - Identify champions to advocate for the plan in the community
- » Schedule a vote concurrent with regular elections in 2022
- » If successful develop a transition plan from HRDC to the UTD (It could include a continuing role for HRDC in managing the service)
- » If the ballot measure fails and Bozeman becomes a UZA; develop a transition of transit responsibility to the City of Bozeman or Gallatin County

- » Prior to election, begin laying the groundwork for grants to support acquiring vehicles and other capital needs to implement the Long Term Plan
- » If the ballot measure is approved, immediately begin the grant application process to secure funds for capital needs to implement the Long Term Plan
- » Due to lead time for obtaining grant awards and procuring buses which could delay implementing the plan until 2024 or 2025; consider leasing buses to achieve earlier implementation

# Capital Program

The following capital improvements are intended to support the proposed service changes. These recommendations are aimed at improving system access and making the system more attractive to use for both current and potential customers. These recommendations can be implemented as resources allow and support all three service scenarios.

## BUS STOP AMENITIES

The proposed recommendations will require both the installation of new stops and upgrades to existing stops. Stop spacing is recommended to be ¼ mile, with stops placed on the farside of intersections where possible. For all new alignment areas (places where existing routes do not currently run), the number of new stops required was calculated based on this ¼ mile spacing standard. In places where existing routes currently operate, new stops will also need to be installed due to the addition of bi-directional service. Therefore, the below costs are estimates. The number of ADA landing areas and curb ramps (required for new stops and desired for existing stops if there is not a sidewalk adjacent to the curb) is a conservative estimate. A full stop audit is recommended to determine the required number of upgrades for existing and proposed stops.

It is also recommended that benches are installed at stops that represent the top 30 percent ridership locations and shelters at stops that represent the top 15% ridership locations. (Additional shelters can be conditioned as a requirement for new development along existing and proposed routes.) The exact locations can be determined following the implementation of the recommended route alignment changes and subsequent ridership evaluation. The following table shows the capital improvement costs for the Additional Route and the Long Term Plan.

TABLE 10: CAPITAL IMPROVEMENT COSTS – BUS STOPS

IMPROVEMENT	UNIT	PER UNIT COST	ADDITIONAL ROUTE		LONG TERM PLAN	
			Quantity	Total Cost	Quantity	Total Cost
Bus Stop Sign and Pole	Number	\$75	143	\$10,725	18	\$1,350
Bus Stop Sign Installation	Number	\$50	143	\$7,150	18	\$900
Bench	Number	\$950	43	\$40,850	6	\$5,700
Bench Installation	Number	\$30	43	\$1,290	6	\$180
Bus Shelter	Number	\$15,000	21	\$315,000	3	\$45,000
Bus Shelter Installation	Number	\$750	21	\$15,750	3	\$2,250
5' x 8' ADA Landing Area	Number	\$2,000	72	\$144,000	9	\$18,000
Curb Ramps	Number	\$3,500	72	\$252,000	9	\$31,500
			<b>Total:</b>	<b>\$786,765</b>		<b>\$104,880</b>

## TRANSIT CENTERS

For the Core Service and Additional Route scenarios the existing transit hubs – MSU Strand Union, Downtown at Mendenhall and Black, Walmart and Gallatin Valley Mall have adequate capacity. Walmart, MSU and Downtown can accommodate three buses at one time and it unlikely that more buses will be scheduled at these locations at one time. Enhancements such as improved shelters and better presentation of transit information should be considered.

In the Long Term Plan there could be instances where more than three buses will be at a hub at one time, particularly Walmart. For the network to work effectively Route D and G need to be timed to connect with Route A. That means that both the northbound and southbound Route A buses need to pass through Walmart while Route D and G are laying

over. Even if the northbound and southbound buses are schedule to be offset, in reality buses operating in both directions could arrive at Walmart at the same time. Also Skyline and Jefferson Lines use this stop creating more potential conflicts. The grassy area and walkway to Oak Street adjacent to the existing stop can be reconfigured to accommodate four to eight buses (depending on layout) at one time that will address this issue. This could be a substantial capital cost.

At MSU the schedule for Route A and E and Route C and F will be staggered to provide more frequent service between MSU and Downtown and MSU and Gallatin Valley Mall resulting with two buses at MSU at one time. It is recommended that Skyline Bus shift its MSU stop to Strand Union to facilitate transfers between Skyline and Streamline. This would account

for the potential for a third bus at one time, reaching the current capacity of this location. However a microtransit service for South Bozeman would need to be timed to connect with one of the fixed route pairs, resulting in the possibility of a fourth vehicle at one time. Modifying the extended curb at the west end of the drive would be the simplest way to accommodate four vehicles.

The current location for Downtown would not have more than three buses scheduled at one time, the current capacity of the stop. If the City chooses to make Mendenhall a two way street the current island would need to be removed and buses would stop on the curb. If this happens it is recommended that the sidewalk be widened (it is currently narrower opposite the transit island) to provide more space for pedestrians and customer waiting for the bus and be designed to accommodate at least four buses at one time to account for future growth beyond what is proposed in this plan.

It appears that there is sufficient curb space at Gallatin Valley Mall to accommodate an increase in the number of vehicles at one time.

## REVENUE VEHICLES

The current Streamline fleet consists of 11 buses with eight needed at peak times. This does not change under the Core Service Plan. However the Additional Route Plan will require one additional peak bus if a 60 minute headway is maintained all day long or two additional buses if a 30 minute headway is maintained during peak hours consistent with Route A, B and C. To maintain a 20% spare ratio (the industry standard) the total fleet will need to grow by one to 12. With four new buses arriving in February 2021 and a fifth new bus arriving in 12 to 18 months this can be accomplished

by not retiring the one to two of the oldest buses in the best condition. While not sustainable as a long term strategy it will enable implementing the Additional Bus scenario in 2021.

The Long Term Plan has a peak vehicle requirement of 13 buses requiring a fleet size of 16 full size buses. Therefore four buses for expansion will need to be acquired. Four smaller vehicles – either cutaways for Galavan or vans to provide the microtransit service will also need to be added to the fleet. If a third party operates the microtransit service they may lease vehicles as part of the contract.

It is anticipated that the changes recommended in this plan – both short term and long term will result in increased ridership. This is based on priding more direct service and improved frequency and service span. Therefore it is recommended that future bus procurements consist of 40 foot 12 year heavy duty buses to accommodate increased customer loads and provide lower life cycle costs.

If Bozeman becomes an urbanized area as a result of the 2020 census it will be eligible for additional 5339 Bus and Bus facilities funding which can cover up to 80% of the cost of purchasing vehicle. Currently the State of Montana receives \$1.75 million per year of 5339 funds while urbanized areas receive 5339 funds based on their 5307 apportionment. Section 5339 also has a discretionary element in which the agency can submit a grant application for additional funds.

The above is based on the current federal transit program which expires September 30, 2021. The new authorization may make significant changes to the program which cannot be anticipated at this time, although it is not anticipated that the program will be reduced.

## MAINTENANCE FACILITY

HRDC requires the contractor of service to provide a maintenance facility for transit vehicles. A one vehicle increase to support the Additional Route Plan may not create capacity issue at the current facility. A further expansion of four vehicles plus possibly four smaller vehicles could exceed capacity forcing the contractor to acquire or construct a larger facility resulting in increased contractor costs. While short term alternatives may be possible, such as finding a nearby alternative location to park buses; consideration needs to be given to a longer term solution. One option would be for HRDC or the successor UTD to construct a maintenance facility for use by the contractor. Doing so could be contingent on obtaining discretionary grants such as FTA 5339.

## TRANSIT TECHNOLOGY

Continuing improvements in technology are enabling transit systems to provide a better customer experience in addition to providing better real time data that can improve operations. Due diligence is essential before procuring any type of technology by consulting with other transit systems regarding their experience with installation, performance, and post installation processes. It is important to recognize that technology is a tool and not the end in itself. Therefore the desired outcome must be clearly defined first, and if technology is not needed to provide the desired result or unnecessary in the operating environment it should not be pursued. For example if Streamline remains fare free there is no need to pursue mobile payment options, however if the agency chooses to begin charging fares (this plan does not make a recommendation regarding fares, but that does not preclude that from occurring at some future date) technology to enable mobile payment will be needed.

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### Performing due diligence includes:

- » Identifying issues with procurement and installation experienced at other transit agencies – actual experience compared to promises
- » Issues with performance at other transit agencies once installed and in use. Does the technology perform as promised?
- » Changes in staffing and procedures needed to properly use the technology and get maximum value from it
- » Identify impacts on operating costs resulting from installation, particularly if it results in the need for increased staffing, changes in staff compensation and the licensing and maintenance costs of the technology

As stated in the section on microtransit above there will be a need to acquire a booking and scheduling application. This could also be used to improve scheduling Galavan paratransit. Improvements are needed in customer transit information apps (a top issue raised in the online survey conducted as part of this project). Buses should be equipped with automatic vehicle locators (AVL) and automatic passenger counters (APC) and dispatch needs to have updated monitors to view actual bus locations.



# Financial Plan

The tables below outline a five year operating and capital plan based on the following assumptions:

- » The Additional Route plan will be implemented in FY 2022 (CY 2021)
- » A public vote in November 2022 for the formation of a UTD and dedicated funding source with service expansion beginning in FY 2025 (CY 2024)
- » A three percent annual inflation factor

The implementation plan lays out the steps needed to implement both the short term recommendations in FY 2022 (CY 2021) and the long term plan. While this provides a blueprint there are several issues that could impact actual implementation. However these tables provide a guide that can be adjusted as circumstances change. Also these tables lay out the resource needs to implement both plans which will provide guidance in developing budgets, grant application strategies and decisions related to a potential ballot measure (e.g. the geographical boundaries of the UTD and tax rate to be assessed).

**Note A:** This table does not include the five buses on order. It is assumed that they will replace the oldest vehicles in the fleet. Assuming a 12 year life (Gilligs) and 10 year life (all others) there will be no need to replace other vehicles in the fleet during the time frame of this table. The \$500,000 figure is to expand the bus fleet by one with a 40 foot 12 year heavy duty bus to support the Additional Route scenario; although in the short term delaying the retirement of the best vehicle to be replaced by the vehicles on order can allow implementation the Additional Route in 2021.

<sup>18</sup> Assumes the Additional Route Plan is implemented in FY 2022 and a successful vote in November 2022 with implementation of new service implementation in FY 2025.

TABLE 11: ANNUAL OPERATING COSTS

PLANNING SCENARIO	FY22	FY23	FY24	FY25	FY26
Core Service	\$1,548,324	\$1,594,774	\$1,642,617	\$1,691,895	\$1,742,652
Additional Route	\$1,937,251	\$1,995,369	\$2,055,230	\$2,116,886	\$2,180,393
Long Term Plan <sup>18</sup>	\$1,937,251	\$1,995,369	\$2,055,230	\$5,735,061	\$5,907,113

TABLE 12: CAPITAL BUDGET

	FY22	FY23	FY24	FY25	FY26
<b>Core Service/Additional Bus Plan</b>					
Revenue Vehicles (Note A)		\$500,000			
Bus Stop Improvements	\$785,765				
Technology (Note B)	\$30,000				
Reserves (Note C)	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
<b>Subtotal</b>	<b>\$1,215,765</b>	<b>\$900,000</b>	<b>\$400,000</b>	<b>\$400,000</b>	<b>\$400,000</b>
<b>Long Term Plan</b>					
Revenue Vehicles (Note D)		\$2,500,000			
Bus Stop Improvements			\$104,880		
Transit Centers (Note E)			\$3,000,000		
Maintenance Facility			Note F		
Technology			\$60,000		
<b>Total</b>	<b>\$1,215,765</b>	<b>\$3,400,000</b>	<b>\$3,564,880</b>	<b>\$400,000</b>	<b>\$400,000</b>

**Note B:** The FY 2022 technology number is to improve the transit information mobile app.

**Note C:** Reserves will be set aside to provide local match for vehicle replacement in later years, additional technology acquisitions, midlife overhauls of vehicles and other unanticipated capital needs.

**Note D:** This assumes the purchase of four 40 foot 12 year heavy duty buses (including spares) for fixed route service expansion and four smaller vehicles

(including a spare) for microtransit service.

**Note E:** Provide modifications to Walmart and MSU Transit Centers to increase vehicle capacity.

**Note F:** Currently the contractor provides the facility to store and maintain vehicles. If this continues, the cost of expanding the facility if needed to accommodate growth, will likely increase the operating budget as it will be amortized over the life of the service contract.