

DOWNTOWN CIRCULATOR SHUTTLE
FEASIBILITY STUDY

FEBRUARY 2009



CBJ142842

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1. EXECUTIVE
SUMMARY

CHAPTER 1 – EXECUTIVE SUMMARY

The City and Borough of Juneau introduced a Downtown Circulator Shuttle and public transit Fare-Free Zone in downtown Juneau in 1984. Though highly successful, the service was discontinued in 1987 due to the absence of dedicated funding. In 2008, Moore & Associates was selected by the Juneau Downtown Business Association (DBA) to evaluate demand within the community for a downtown circulator; study routing, scheduling, and vehicle options; identify available funding sources; and incorporate marketing strategies to promote the service.

Through discussions with the DBA, Moore & Associates defined the project goals and objectives as follows:

- Assess the feasibility of implementing an “open door” circulator within Juneau’s downtown area.
- Develop one or more potential alignments for said circulator.
- Prepare a five-year Capital and Financial Plan supporting the selected alternative.
- Advance strategies and prepare initial marketing collateral supporting the selected alternative.

Community Outreach

In August and September 2008, an online attitudinal survey was posted on the Downtown Business Association’s website to obtain community feedback regarding the proposed Downtown Circulator

Shuttle. The geographic area defined as "downtown" lies within the following borders: Highland Dr. (north), the Rock Dump (south), Mt. Roberts (east), and the Gastineau Channel (west).

The profile respondent either *lives* (48.8 percent) or *works* (80.4 percent) within the downtown area, is a *year-round resident* of the CBJ (89.5 percent), *owns a personal vehicle* (84.8 percent), and *drives to work downtown* (60.1 percent). The profile respondent believed the shuttle *should operate year-round* (63.0 percent), *in addition to existing Capital Transit routes* (50.0 percent), would only use the shuttle if it had a *service frequency of 30 minutes* (50.3 percent) or *15 minutes* (45.1 percent), and would likely use the shuttle *two or fewer times per week* (42.3 percent). *Cost/fare* (3.4) and *routing* (3.4) are the service attributes deemed most important to all respondents.

When assessing the potential for success of the proposed shuttle, likeliness of respondents to use the service should first be considered. Two distinct groups can assist in drawing conclusions: those who both work and live downtown (36.7 percent) and those who *own a personal vehicle*, or "choice riders" (84.7 percent).

Service Planning

During the development of service alternatives, Moore & Associates considered the feedback from the DBA and community gathered during the project's initiation and through the various community outreach efforts. Separate alignment strategies developed for the

adopted 2008 CBJ Transit Development Plan (TDP) were mimicked in this analysis to promote consistency. These strategies include:

- Incorporation of this Circulator Shuttle into the existing Capital Transit route network as an individual route,
- Development of a stand-alone service run by a private sector entity, and
- A hybrid approach.

Circulator Fleet Options

The selection of vehicles for the Circulator service is not an insignificant task. Multiple considerations must be taken into account, including fuel type, size, and – perhaps most importantly – appearance. The Circulator is more than just a regular transit vehicle; it is also representative of the spirit of downtown Juneau. Four types of vehicles are presented in this section, including conventional vehicles, advanced diesel vehicles, hybrid electric vehicles, and non-electric trolley-style vehicles. Each type of vehicle has advantages and disadvantages, but all are potentially viable options for the CBJ's Downtown Circulator. Compressed natural gas (CNG) vehicles, while an environmentally friendly option, were not included because of the lack of supporting infrastructure (i.e., local CNG refueling station).

Recommended Alternatives

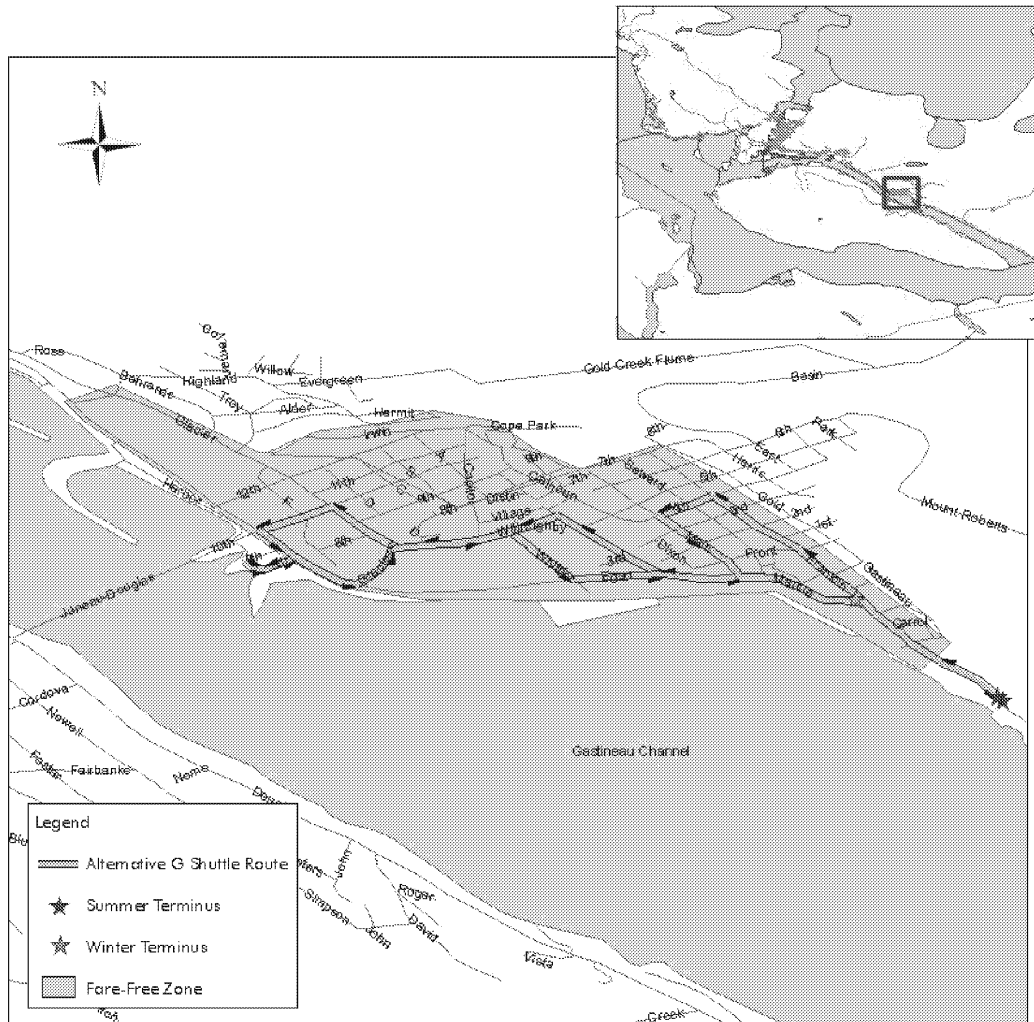
Due to the existence of the sufficient demand within downtown Juneau to support the introduction of a dedicated Circulator shuttle, Moore & Associates recommends the CBJ implement

Alternative G as detailed in the Service Planning chapter (Chapter 4) of this report. This configuration would increase transit's footprint within downtown Juneau through increased service area and enhanced frequency. Among the possible alternatives, Alternative G is the most effective in addressing concerns raised by staff, stakeholders, and members of the community. Alternative G is the best-suited alternative for improving mobility for residents and visitors in downtown Juneau.

As detailed in the Service Alternatives Chapter, Alternative G is different from the other routes proposed in this chapter, and somewhat similar to the route originally proposed in the 1984 report. This alignment serves the Library/municipal parking garage, Federal Building, the Department of Labor, the Department of Fish and Game, and the Alaska State Museum. Beginning at the Princess Dock, this route travels north Franklin and makes a left on 4th. The route then makes a left on Main down to Egan, before turning on Willoughby all the way to 10th. From 10th, the route heads back inbound on Egan and stops through the Department of Labor before heading back inbound on Egan. From Egan, the route turns left on Glacier Avenue, then takes Willoughby to Whittier, before heading back to the Princess Dock via Egan.

The advantage of this alignment is its service to the Main Street area and both a major downtown parking facility as well as several government offices.

Exhibit 1.1 Alternative G Map



Vehicle/Fleet Recommendation

As detailed in the Vehicle/Fleet Analysis chapter (Chapter 5), multiple benefits can be realized by utilizing various types of vehicles for this Circulator. To recommend the most effective vehicle for this type of service, we have investigated vehicles that are cost-efficient, environmentally friendly, and demand-prepared.

It is recommended that the DBA utilize two Trolley-Style Shuttles, as long as it can provide a comfortable ride in winter and inclement weather. If a local contractor operates the service and has other vehicles available to use as a spare, only two dedicated vehicles will need to be procured. Of the three vehicles (including the spare), a minimum of two must be ADA-compliant with wheelchair lifts and tie-downs, thereby ensuring at least one wheelchair-accessible vehicle can be in service at all times.

Financial Plan

This chapter presents the capital requirements and five-year operating budget projections required to support the recommendations contained within the Service Planning Chapter (Chapter 4). The financial information presented in this section includes "good faith" estimates. Therefore, given the strong probability that a competitive contract procurement will be undertaken as part of program development, the figures represented herein are not intended as guarantees of actual costs.

DOWNTOWN CIRCULATOR SHUTTLE FEASIBILITY STUDY

Exhibit 1.2 Capital Plan

Fleet Costs	FY 2008/09		
	Number	Cost/Unit	Total Cost
Conventional Gas			
12 to 14 Passenger Shuttle	3	\$80,000	\$240,000
15 to 20 Passenger Shuttle	3	\$100,000	\$300,000
21-30 Passenger Bus	3	\$125,000	\$375,000
Advanced Diesel			
12 to 14 Passenger Shuttle	3	\$100,000	\$300,000
15 to 20 Passenger Shuttle	3	\$125,000	\$375,000
21-30 Passenger Bus	3	\$150,000	\$450,000
Hybrid-Electric			
12 to 14 Passenger Shuttle	3	-	Subject to Availability
15 to 20 Passenger Shuttle	3	-	Subject to Availability
21-30 Passenger Bus	3	\$750,000	\$2,250,000
Trolley-Style (non-electric)			
12 to 14 Passenger Shuttle	3	-	Subject to Availability
15 to 20 Passenger Shuttle	3	\$150,000	\$450,000
21-30 Passenger Bus	3	\$175,000	\$525,000

Exhibit 1.3 Baseline Financial Plan (using 1 Vehicle)

Expenses	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13
Operating					
Operations	\$370,362	\$381,473	\$392,918	\$404,705	\$416,846
Marketing	\$18,518	\$11,444	\$11,788	\$12,141	\$12,505
Total Operating Expenses	\$388,881	\$392,918	\$404,705	\$416,846	\$429,352
Capital					
# of Vehicles	2	0	0	0	\$0
Cost per Vehicle	\$125,000	\$0	\$0	\$0	\$0
Total Cost of Vehicles	\$250,000	\$0	\$0	\$0	\$0
Total Non Fleet Infrastructure	\$59,800	\$5,200	\$0	\$0	\$0
Total Capital Expenses	\$309,800	\$5,200	\$0	\$0	\$0
Total Expenses	\$698,681	\$398,118	\$404,705	\$416,846	\$429,352
Revenue Needed					
Fare	\$0	\$0	\$0	\$0	\$0
Local	\$139,736	\$79,624	\$80,941	\$83,369	\$85,870
Federal Pass-Through Money	\$558,944	\$318,494	\$323,764	\$333,477	\$343,481
Total Revenue	\$698,681	\$398,118	\$404,705	\$416,846	\$429,352

DOWNTOWN CIRCULATOR SHUTTLE FEASIBILITY STUDY

Exhibit 1.4 Baseline Financial Plan (using 2 Vehicles)

Expenses	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13
Operating					
Operations	\$740,725	\$762,947	\$785,835	\$809,410	\$833,692
Marketing	\$37,036	\$22,888	\$23,575	\$24,282	\$25,011
Total Operating Expenses	\$777,761	\$785,835	\$809,410	\$833,692	\$858,703
Capital					
# of Vehicles	3	0	0	0	\$0
Cost per Vehicle	\$125,000	\$0	\$0	\$0	\$0
Total Cost of Vehicles	\$375,000	\$0	\$0	\$0	\$0
Total Non Fleet Infrastructure	\$59,800	\$5,200	\$0	\$0	\$0
Total Capital Expenses	\$434,800	\$5,200	\$0	\$0	\$0
Total Expenses	\$1,212,561	\$791,035	\$809,410	\$833,692	\$858,703
Revenue Needed					
Fare	\$0	\$0	\$0	\$0	\$0
Local	\$242,512	\$158,207	\$161,882	\$166,738	\$171,741
Federal Pass-Through Money	\$970,049	\$632,828	\$647,528	\$666,954	\$686,963
Total Revenue	\$1,212,561	\$791,035	\$809,410	\$833,692	\$858,703

Initial Marketing Recommendations

The single most important aspect for marketing the Downtown Juneau Circulator Shuttle is the creation of a new brand identity that will portray it as a separate service to other services provided in the area. Four core components were identified as being necessary for the Downtown Circulator's distinct identity. These components are:

- * Service name,
- * Logo,
- * Color scheme, and
- * Tagline.

Exhibit 1.5 Potential Service Brands



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2. PROJECT OVERVIEW

CHAPTER 2 – PROJECT OVERVIEW

Juneau was first settled in 1880 as a gold mining camp. Originally called Harrisburgh, then Rockwell, the town's name was changed to Juneau in late 1881. In 1900, Juneau was incorporated and named the capital of the Alaska Territory, though the territorial government did not relocate to Juneau until 1906. When gold became scarce, efforts went into hard-rock mining instead. Several large mines were located in and around Juneau and on Douglas Island, most of which had closed by the mid-1940s. Since then, the dominant industries in Juneau have been government, tourism, and commercial fishing, and mining. Juneau is currently the home base for the Greens Creek Mine, located approximately 15 miles to the southwest on the northern end of Admiralty Island National Monument.

Alaska was granted statehood in 1959, with the City of Juneau becoming a home-rule city in 1960. The Greater Juneau Borough was established in 1963; it combined with the cities of Juneau and Douglas into a unified City and Borough in 1970. The City and Borough of Juneau (CBJ) is governed by a nine-member Assembly. As of 2006, the CBJ was home to nearly 31,000 residents, approximately 3,500 of whom lived in the downtown area. Downtown Juneau is the most densely populated area within the CBJ and also home to a large number of employers including a cruise ship port and federal, state, and local government offices. With five cruise ship docks usually filled to capacity every day

during the cruising season, the cruise industry represents the city's primary source for economic stimulus.

Because of the geography of the area, the CBJ is only accessible from air or sea. The Alaska Marine Highway System connects the area to British Columbia and Bellingham, Washington. Air



transportation is available through Alaska Airlines and several charter or commuter carriers at Juneau International Airport. A network of local roads provides access to the Mendenhall Valley, downtown Juneau, and Douglas Island. The provision of efficient and effective public transportation by local operators is especially important in Juneau given these geographic limitations.

Background

Capital Transit has been providing public transportation service in the CBJ since 1970. Originally offering service between Juneau and Douglas, it expanded to include the Mendenhall Valley in 1975. Care-A-Van began operating in 1981, providing demand-response complementary paratransit service across the CBJ. In 2007, Capital Transit provided over 1.2 million fixed-route trips with its fleet of 16 buses. Care-A-Van provided nearly 30,000 additional trips for qualified paratransit customers during the same time period. The current Capital Transit system operates



Monday through Saturday, 7:00 a.m. to 11:30 p.m., and on Sunday from 9:00 a.m. to 6:30 p.m. Current local routes serve downtown Juneau, the Mendenhall Valley, Auke Bay, Lemon Creek, and Douglas Island. Express service is also available on weekdays only.

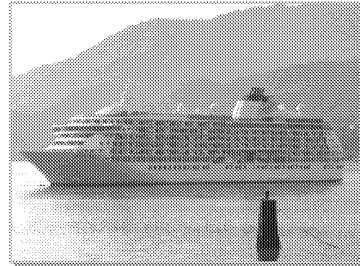
The City and Borough of Juneau introduced a Downtown Circulator Shuttle and public transit Fare-Free Zone in downtown Juneau in 1984. Though highly successful, the service was discontinued in 1987 due to the absence of dedicated funding. In 2007, the CBJ determined that it wished to revisit the concept of a downtown circulator, and requested that a feasibility study be conducted in conjunction with their Transit Development Plan (TDP), Transit Improvement Plan, and Coordinated Human Services Plan. These planning studies were completed in August 2008 by Moore & Associates, Inc. A brief analysis of the downtown circulator was included in the TDP, but the full study's timetable was extended to this full report.

In response to the feasibility study, Moore & Associates was selected by the Juneau Downtown Business Association (DBA) to evaluate demand within the community for a downtown circulator; study routing, scheduling, and vehicle options; identify available funding sources; and incorporate marketing strategies to promote the service.

Purpose

The purpose of the Downtown Circulator Study is to create viable service alternatives for the reintroduction of a circulator service to downtown Juneau. The goal of such a service is to improve community mobility, promote the downtown as a commercial and retail destination, and help mitigate downtown traffic congestion for residents, persons employed within the downtown area, and visitors to Juneau. The added convenience of a downtown shuttle could also reduce reliance on personal vehicles in the downtown area, thus continuing Juneau's reputation for environmental sustainability.

Juneau is home to the most-visited cruise ship port in southeast Alaska. Nearly 650 cruise ships visited the city during the 2007 summer season (May through September),

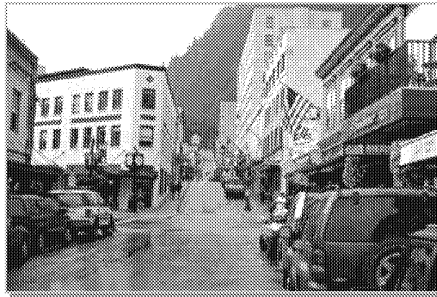


bringing nearly a million visitors directly to the downtown area to shop, board tour buses, and visit area attractions. Each ship's arrival could bring as many as 2,600 passengers (plus crew members), with up to seven ships docking each day. This means that the small downtown area of Juneau experiences an influx of nearly 15,000 visitors per day at the height of the cruise season. While public transportation ridership continues to be dominated by Juneau residents, the large volume of foot traffic resulting from the influx of visitors fills sidewalks and disrupts traffic flow in downtown Juneau. Also contributing to traffic congestion in downtown

Juneau are the numerous trucks that must pass through en route to the port area.

Transportation services offered by the cruise industry and private tour operators provide mobility for cruise ship passengers and other visitors, but contribute little to the mobility needs of Juneau residents. Adding a new circulator shuttle in the downtown area would not only serve the needs of Juneau's year-round population, but also provide an additional mobility option for the city's thousands of visitors each day during the cruise season.

The limited availability of parking is another concern for those who live and work in downtown. The current parking supply within walking distance of key



downtown area employers and retail destinations is largely limited to on-street parking with one-hour time limits. While this may be adequate for shopping excursions, it does not accommodate those who work in the area and must park their cars for the entire business day. Parking structures and lots are available in downtown Juneau but are often not within comfortable walking distance of key employers, especially in harsh winter weather. While a multi-story parking structure is an element of the City's Main Street Transit Center project and will help mitigate some of the parking problems, it will not resolve any congestion issues. The proposed circulator

shuttle would allow persons employed in downtown to park in remote structures and use the shuttle to access their downtown worksites. This would alleviate some of the congestion as well as free up parking availability for those calling on downtown merchants.

A circulator shuttle would also make frequenting downtown merchants more attractive, especially given the recent increase in competition from retailers in outlying areas. The construction of malls in the Mendenhall Valley and Lemon Creek in the 1970s created additional retail destinations within the CBJ. The introduction of big-box retailers, which often boast free parking and are located near residential areas, creates an additional challenge for downtown merchants. However, the parking challenges and limited road network could be offset by the convenience offered by an attractively branded downtown circulator shuttle. Such a service could become an important economic stimulus tool for the entire downtown area.

Methodology

The development of an implementation strategy is the final step in the planning process. In order to determine the appropriate type of service, we first had to develop parameters. Our methodology consisted of the following tasks:

- Defining goals and objectives;
- Evaluation of existing conditions, including demand, transit, pedestrian traffic, and parking;

- Community outreach, including downtown merchants, government employees, the tourism industry, stakeholders, and the general public;
- Development of a financial plan (including a capital plan, operations plan, etc.); and
- Development of marketing recommendations.

Through discussions with the DBA, Moore & Associates defined the project goals and objectives as follows:

- Assess the feasibility of implementing an “open door” circulator within Juneau’s downtown area.
- Develop one or more potential alignments for said circulator.
- Prepare a five-year Capital and Financial Plan supporting the selected alternative.
- Advance strategies and prepare initial marketing collateral supporting the selected alternative.

In order to evaluate demand for a downtown circulator shuttle, our firm reviewed data related to current public transportation usage as well as local and regional development plans. This enabled our project team to provide a comprehensive demographic, geographic, and socio-economic overview of the CBJ. Also, in conjunction with the CBJ’s Coordinated Transportation Plan, we were able to identify existing perceived and actual service gaps. Through these efforts, growth and land use can be forecast across the next five years. We created a summary and GIS plotting of

current demographic data as well as projections through 2020. This overview of Juneau's population and public transportation services can be found in the City and Borough of Juneau's 2008 Transit Development Plan.

Pedestrians make up a large percentage of visitors to the downtown area. To determine the effects of pedestrians on the local economy and transportation network, we conducted counts of pedestrians crossing major intersections in downtown Juneau during peak and off-peak hours as part of the recent Transit Development Plan. A map of relative densities of pedestrian activity was generated using our in-house GIS software. Traffic count data obtained from the Alaska Department of Transportation was combined with our pedestrian count data to provide a clear depiction of high-traffic areas as well as identify locations with significant pedestrian/vehicle conflicts. These maps can be found in the CBJ's 2008 Transit Development Plan. We analyzed this data to determine their collective effect on the proposed downtown shuttle service.

Community outreach played a very significant role in the planning process. A new service is useless if it does not meet the needs of the community. Significant community outreach was undertaken in conjunction with the 2008 Transit Development Plan and Coordinated Human Service Plan. Any relevant feedback from those efforts was applied to the Downtown Circulator Study as well.

Specific to the downtown circulator, we conducted a general public survey via the Internet to gauge overall community response. The use of a web-based survey instrument was chosen because of its convenience and ease-of-use for a large percentage of the population. Postcards advising residents of the opportunity to participate in the survey were distributed at local retail establishments. The Downtown Business Association also promoted the survey on the front page of their web site.

A financial plan and marketing recommendations were all created following the evaluation of current conditions, assessment of need, and community outreach processes. As a part of plan development, we considered the following:

- Incorporation of the downtown circulator into Capital Transit vs. the creation of a separate, stand-alone service;
- The viability of using Compressed Natural Gas (CNG) vehicles as well as other alternatives to conventionally fueled vehicles;
- Fleet requirements;
- Facility improvements and other capital requirements;
- Funding options; and
- Specific marketing recommendations.

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3. COMMUNITY
OUTREACH

CHAPTER 3 – COMMUNITY OUTREACH

Community Outreach

The majority of community outreach efforts for the Downtown Circulator Shuttle were conducted between October 2007 and June 2008 as part of the 2008 Transit Development Plan. Eight



at-large community meetings were held during that time period. Two core concerns raised during these meetings were particularly relevant to the Circulator study: A desire to implement a downtown area circulator/shuttle and the recommendation that future vehicles should use alternative fuels.

Significant feedback was also received during the public comment period. Most citizens commented on Capital Transit service opportunities in general; few were related to the Downtown Circulator Shuttle specifically. However, in a letter to Mr. Ben Lyman, a representative of the Juneau Council on Sustainability expressed the organization's endorsement of the proposed Downtown Circulator Shuttle, especially if it were to use electric or alternative fueled vehicles.

An August 2007 meeting with representatives from the cruise industry was held to discuss both the TDP and the proposed Downtown Circulator. Industry representatives were eager to

support any program that would enhance mobility in the downtown area. However, they did feel that any Downtown-specific transit offerings should be designed to serve the community as a whole, not be tailored to cruise ship passengers or other visitors for several reasons:

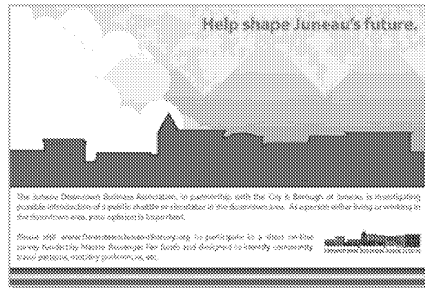
1. The likely modest vehicle capacity of the shuttles compared to the number of arriving cruise ship passengers,
2. The presence of existing cruise-specific transportation services, and
3. Limited access to the cruise piers.

Cruise industry representatives are eager to see at least a pilot or demonstration program in place during the 2009 cruise season, even if it commences after the beginning of the cruise season.

A meeting with the Juneau Economic Development Council resulted in discussion regarding the attractiveness of using hybrid electric vehicles for the Downtown Circulator service to reduce noise and emissions. Comments from representatives of the Alaska State Museum expressed strong support for the Circulator and indicated potential funding for the service. Attendees at the private transportation stakeholder meeting also expressed support for the introduction of a Downtown Circulator service.

Community Survey

In August and September 2008, an online attitudinal survey was posted on the Downtown Business Association's website to obtain community feedback regarding the proposed Downtown Circulator Shuttle. The geographic area defined as "downtown" lies within the following borders: Highland Dr. (north), the Rock Dump (south), Mt. Roberts (east), and the Gastineau Channel (west).

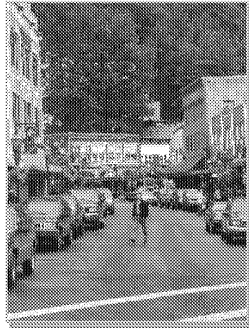


More than 2,000 postcards advertising the survey were distributed at local retail establishments and public forums during the last week of August to announce the

survey and drive traffic towards the website. Although postcards were made available throughout the Juneau community, the majority were distributed in downtown Juneau. Large quantities of postcards were made available downtown in order to suffice for the more than 3,497 people who reside in the area (2000 Census).

Physical distribution of the survey postcards included merchants throughout the downtown area; all CBJ libraries; City Hall; the CBJ's City Clerk, Permit Center, and Community Development offices; Juneau Coordinated Transportation Commission; the Alaska State Museum; Centennial Hall/Convention and Visitor's Bureau (CVB); KTOO studios; Rainbow Foods; Foodland; and several state and federal offices. Postcards were also mailed to each household within the downtown area and sent electronically to all members of

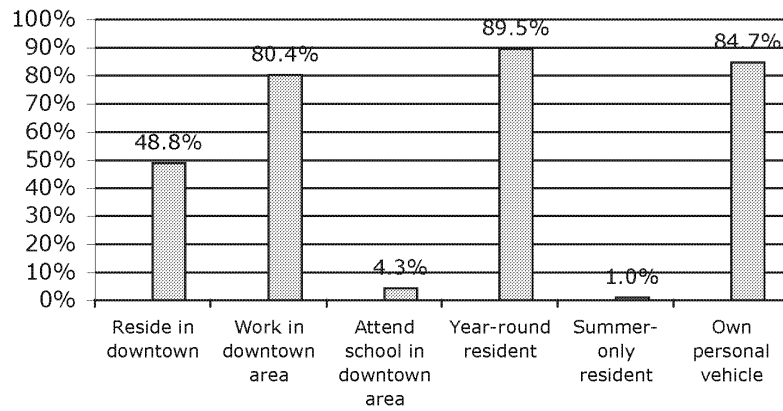
the CVB and Chamber of Commerce. A total of 210 unique visitors responded to the survey.



The profile respondent either *lives* (48.8 percent) or *works* (80.4 percent) within the downtown area, is a *year-round resident* of the CBJ (89.5 percent), *owns a personal vehicle* (84.8 percent), and *drives to work downtown* (60.1 percent). The profile respondent believed the shuttle *should operate year-round* (63.0 percent), *in addition to existing Capital Transit routes* (50.0 percent), would only use the shuttle if it had a *service frequency of 30 minutes* (50.3 percent) or *15 minutes* (45.1 percent), and would likely use the shuttle *two or fewer times per week* (42.3 percent). *Cost/fare* (3.4) and *routing* (3.4) are the service attributes deemed most important to all respondents.

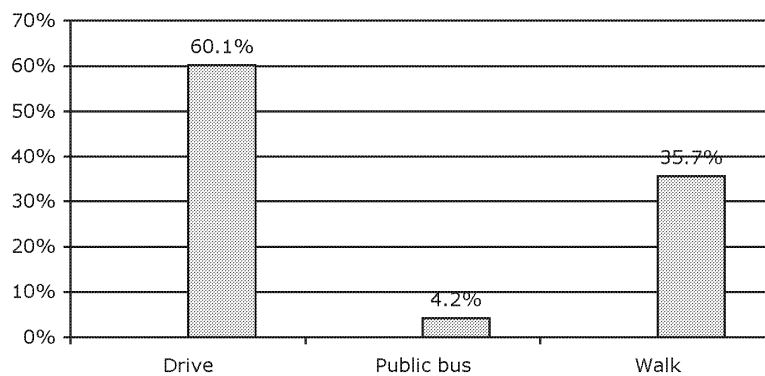
To assess prevailing attitudes of persons responding to the survey, we posed six qualifying statements. These statements related to whether the respondent resides, works, and/or attends school in the downtown area, resident status (year-round or seasonal), as well as access to a personal vehicle. Just under half (48.8 percent) *live in the downtown area*, though the vast majority of respondents indicated working *in downtown* (80.4 percent); are *year-round residents* (89.5 percent); and *own a personal vehicle* (84.7 percent). Only 4.3 percent cited *attending school downtown*, and only one percent indicated being *seasonal residents*.

Exhibit 3.1 Qualifying Characteristics



Respondents indicating working downtown were queried as to their typical mode of travel. Sixty percent said they *drive*, with another 35.7 percent citing *walking*. Only 4.2 percent of respondents indicated use of the *public bus*.

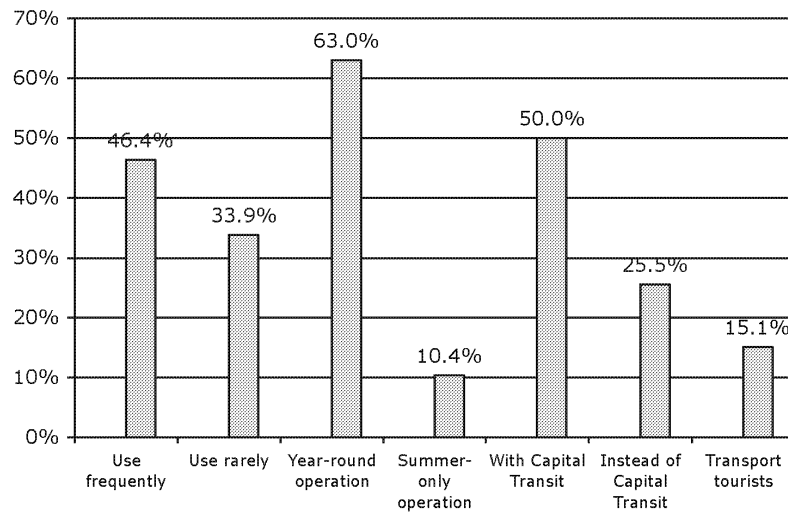
Exhibit 3.2 Typical Mode of Travel, Downtown Workers



Respondents were queried as to their opinion regarding the service plan for the proposed shuttle. Forty-six percent indicated the service as a *travel option which I would use frequently*, while 33.9 percent said they would use it only rarely. A majority (63.0 percent) indicated a desire for the proposed shuttle to operate *year-round*, while only 10.4 percent believed it should be a *summer-only* service. Half of all respondents (50.3 percent) would like the *shuttle to operate in addition to regular Capital Transit routes* through downtown, though 25.5 percent would prefer to see a shuttle *replace Capital Transit* in the downtown area. Just over 15 percent believed the shuttle should be designed as a *tourist service*,

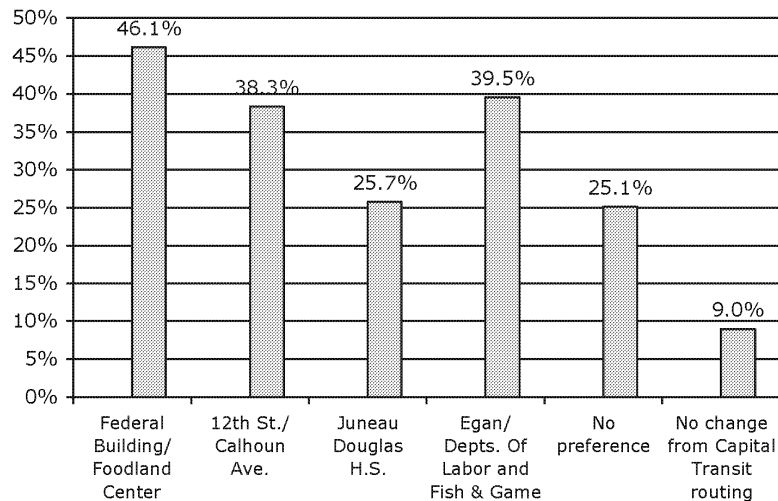
meaning the service should be tailored to address the mobility needs to Juneau visitors during the summer months.

Exhibit 3.3 Preferred Service Structure



Survey participants were asked to indicate the likelihood that they would use the service based on a number of routing scenarios. Forty-six percent stated that they would use the service if it operated between the *Federal Building and the Foodland Center on Willoughby Avenue*. Another 38.3 percent indicated a preference for service along *12th Street and Calhoun Avenue*. Service to or near Juneau-Douglas High School is important to 25.7 percent of respondents, while 39.5 percent cited a preference for service along *Egan so as to include the Statement of Labor and Fish and Game offices*. A quarter of respondents revealed *no preference*, and an additional nine percent said they *did not require any change* from the existing Capital Transit routing.

Exhibit 3.4 Routing Preferences

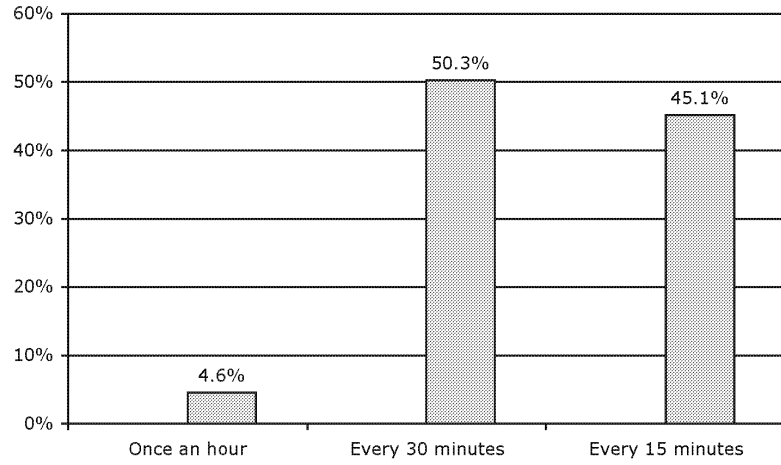


An open-ended *other* response allowed respondents to write in their own answers. Of the 167 respondents who answered this question, 49 opted to write in an additional service location or comment. Several respondents specified locations outside the downtown area. Desired service locations cited by multiple respondents included the cruise ship docks, Franklin Street, the Federal Building, State Office Building, Fourth Street, Sixth Street, Main Street, Foodland, and the Capitol Building.

Respondents were asked how service frequency might impact their potential use of the shuttle. Only 4.6 percent indicated a likelihood to use the service if it had a frequency of once per hour. The majority of respondents cited a preference for a frequency of *30 minutes* (50.3 percent) or *15 minutes* (45.1 percent). This indicates 95.4 percent believe the service would need to operate at least every half-hour in order to meet their mobility needs.

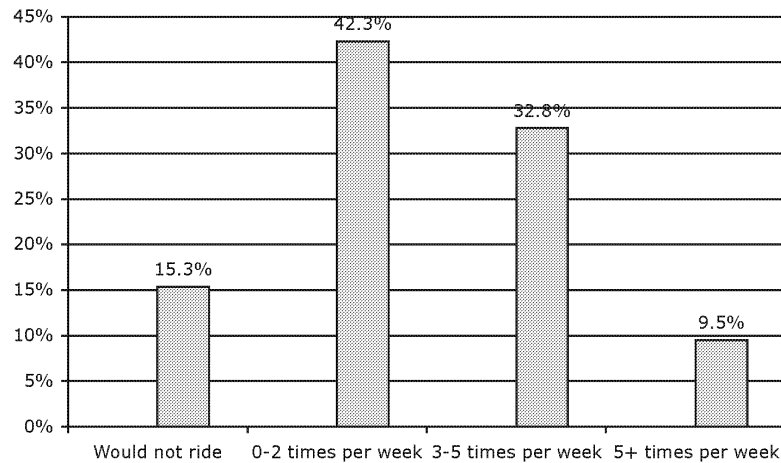
Exhibit 3.5 Service Frequency Preferences

DOWNTOWN CIRCULATOR SHUTTLE FEASIBILITY STUDY



Survey respondents were asked how many times per week they would likely use the proposed shuttle. More than 42 percent said they would likely use the service *fewer than twice per week*, while 32.8 percent cited potentially using the shuttle *3 to 5 times per week*. Less than 10 percent said they would use the service *more than five times per week*. Overall, 85 percent of respondents indicated a willingness to use a downtown shuttle, specifying using the service at least *0-2 times per week*.

Exhibit 3.6 Estimated Frequency of Patronage



Respondents were asked to rank the importance of several potential service attributes associated with the proposed circulator shuttle. Respondents were instructed to indicate the importance of each of five specified characteristics using a scale of one to four, where one is "least important" and four is "most important." As illustrated in the table below, *cost/fare* (3.4) and *routing* (3.4) were both ranked as "most important." This underscores the shuttle's scheduling and alignment would have the greatest impact on whether residents and/or employees with other mobility options choose to use the service. Vehicle type was the least important attribute overall, with an average rating of 2.2.

Exhibit 3.7 Service Attributes

Attribute	1	2	3	4	Average rating
Cost/Fare	6.5%	10.2%	18.8%	64.5%	3.4
Routing	8.2%	5.5%	23.0%	63.4%	3.4
Frequency of Service	10.3%	14.7%	32.1%	42.9%	3.1
Environmentally-friendly	12.4%	17.7%	24.9%	32.5%	2.9
Vehicle Type	38.1%	26.1%	18.2%	17.6%	2.2

Conclusions

Likelihood to use service

When assessing the potential for success of the proposed shuttle, likelihood of respondents to use the service should first be considered. Two distinct groups can assist in drawing conclusions: those who both work and live downtown (36.7 percent) and those who *own a personal vehicle*, or “choice riders” (84.7 percent).

Interesting trends emerged from those respondents who work and live downtown when running cross-tabulations against other variables. Of those respondents who work and live downtown, *walk* (74 percent) was found to be the most common travel mode to work. Interestingly, the majority of respondents who work and live downtown *owned a personal vehicle* (84.4 percent). Given this group walks to work despite having the means of transporting themselves, it can be assumed a large share of trips made by the group are short.

As this group makes short trips to work, it is important to consider whether this group would be inclined to use the service. Two data findings illustrate that this group would in fact use the proposed shuttle as a travel option if the service were made available; however, the specific purpose is unclear:

1. A majority (76.5 percent) would use the service *5 or less times per week*. Only 10.2 percent of respondents *would not ride*.

2. Only 28.7 percent considered the service a *travel option I would rarely use*.

The other group to consider is those who *own a personal vehicle*, or “choice riders.” More than any other group, “choice riders” are generally the most difficult to persuade to use public transit as they already have means for transporting themselves. Two data findings illustrate that this group would in fact use the proposed shuttle as a travel option if the service were made available:

1. A majority (75 percent) would use the service *5 or less times per week*. Only 16.5 percent of respondents *would not ride*.
2. Only 32.6 percent considered the service as a *travel option I would rarely use*.

It is evident that, although respondents who work and live downtown and “choice riders” were found to travel short distances to work from their residence in downtown and have the means of transporting themselves, the majority of respondents would consider the service as a transportation option. This is also true on an aggregate level as similar findings were found.

Shuttle Operation

The survey results depicted how respondents felt the proposed shuttle should operate. Respondents felt the service should operate year-round (63 percent) in combination with Capital Transit (50 percent). If the DBA satisfies the cited preferences, the

proposed shuttle must coordinate with existing Capital Transit service as much as possible, avoiding unnecessary duplication of service where possible. Such a problem was identified when respondents found service *operating between the Federal Building and Willoughby* (46.1 percent) as the most appealing routing for the proposed shuttle. Scheduling for such a service could be complicated, as to not cannibalize any of the Capital Transit services that already operate within the same proximity.

“New” routing preferences also emerged from survey results. These locations do not coincide with current Capital Transit routes, and therefore would not cause any type of cannibalization. The two most frequently cited route preferences include the *Department of Labor and Fish and Game* (39.5 percent) and *12th St. and Calhoun Ave.* (38.3 percent).

Respondents were found to be partial to frequent service for the proposed shuttle. Forty-five percent of respondents indicated the service should operate on *15-minute* headways. Further, nearly the entire sample thought the service should operate every 30 minutes or less (95.4 percent).

The importance of frequent service was verified in the attribute rating. Frequency service was rated of high importance, receiving a 3.1 rating. When considering service attributes and operation scheduling for the proposed shuttle, the Downtown Business

Association should consider operating a service that runs frequently.

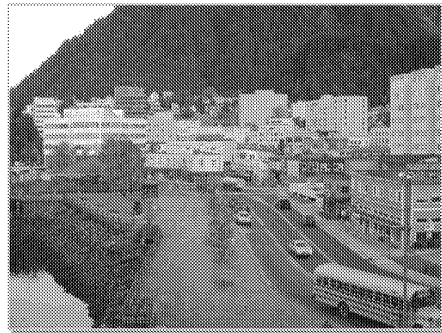
4

4. SERVICE PLANNING

CHAPTER 4 – SERVICE PLANNING

The purpose behind the development of the Circulator is twofold: It should provide a desired transportation function while at the same time being an attractive mobility option. This chapter will focus on the different route alternatives explored in the development of this plan. Intended to complement the existing Capital Transit system,

this Circulator aims to provide relief to the existing fixed-route and paratransit services by making short, frequent trips throughout the downtown Juneau area. This relief function would improve



community mobility throughout the service area, promote downtown as a commercial and retail destination, and help to mitigate downtown traffic congestion for residents, persons employed within the downtown area, and visitors to Juneau.

Service Alternatives

During the development of service alternatives, Moore & Associates considered the feedback from the DBA and community gathered during the project's initiation and through the various community outreach efforts. Separate alignment strategies developed for the adopted 2008 CBJ Transit Development Plan (TDP) were mimicked in this analysis to promote consistency. These strategies include:

- Incorporation of this Circulator Shuttle into the existing Capital Transit route network as an individual route,
- Development of a stand-alone service run by a private sector entity, and
- A hybrid approach.

Should a stand-alone service be recommended, Capital Transit could still realize cost savings within its fixed-route program through potential reduction of operating costs or reallocation of funding. The selection of a local operator for the shuttle service alone would require a contractor with a qualified project manager to manage the program locally, as well as a City project manager. The City project manager would not need to be a full-time position. The contractor's project manager could be either a full-time or part-time position.

In response to community feedback, this process also considered variables such as different seasonal routes, different terminus locations based on season, as well as service to areas of interest including the Princess Dock, the Rock Dump (AJ Cruise Ship Dock), the Juneau Douglas City Museum, the Alaska State Capital Building, restaurant and retail locations, and other federal, state and local employers.

Two primary fare options are available. The Circulator could be operated with a traditional fare structure (per-ride cash fare and/or non-cash fare media) or as a free service within a designated

geographical area. Each route map shows a "fare-free" zone, where riders would not have to pay when boarding and alighting inside the zone. This system can be used in concert with each of these routes or as an alternative all its own. Riders would only pay when boarding outside this zone. Riders who board inside the zone would only have to pay if they travel outside of the zone, in which case they would pay upon exiting the vehicle. Riders traveling exclusively inside the zone would travel for free.

Circulator Timetables

The proposed Circulator timetables presented in this chapter assume the following:

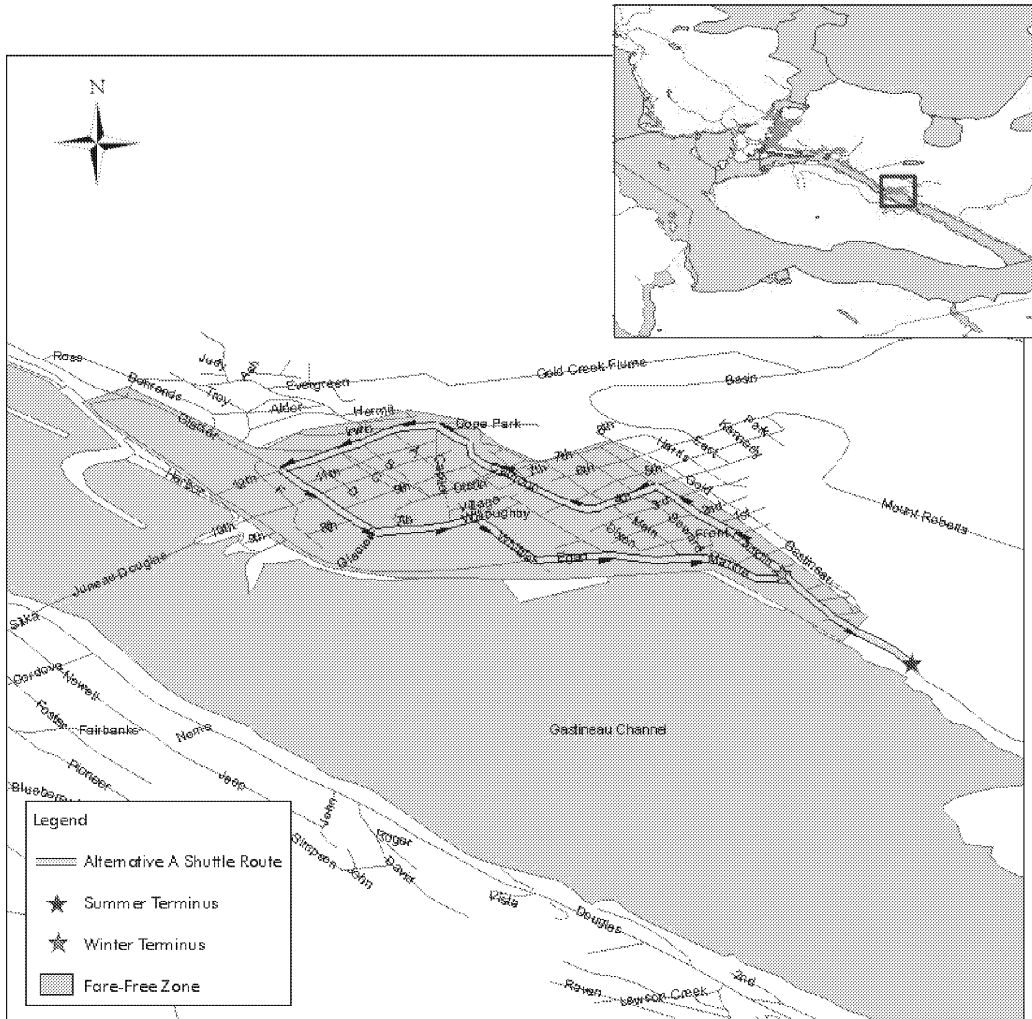
- ✦ Summer service is scheduled for 7 days a week, from 7:00 AM to 8:00 PM. Winter service is scheduled from Monday through Friday, 9:00 AM to 6:00 PM. Both Winter and Summer service are represented on each timetable.
- ✦ All routes were requested to have ten-minute headways.
- ✦ All routes operate in a "one-way" direction, generally counter-clockwise. Alternative D is the only alternative that operates in a clock-wise direction.
- ✦ There are no driver breaks included in these timetables. A "breaker" would be needed to provide driver breaks.
- ✦ All tables represent the use of two (2) vehicles, to ensure headway times.

- ◆ During the summer, Alternatives A through D, and G begin and end at the Princess Dock. During the winter, Alternatives A through D, and G begin and end at the Library roundabout at Franklin and Marine Way. The schedule will remain consistent regardless of season.
- ◆ Alternatives A through D, and G have an extra five-minute window from when a vehicle arrives at the Princess Dock to when it is scheduled to leave. This is due to the higher amount of pedestrian traffic in the area and the greater opportunity for an increase in boarding/alighting from riders.
- ◆ Alternative E represents summer service only. If Alternative E were chosen as the preferred alternative, then winter service would be the same as Alternative A.
- ◆ Route times are based on an average vehicle speed of 10 to 15 miles per hour (a speed of 12.5 miles per hour was used for calculations).
- ◆ Stop locations listed in the tables have not been analyzed for proper vehicle boarding/alighting specifications/ requirements; they are merely timepoints, or points of interest. It is assumed that there will be stopping between these points; an allowance for more frequent stops has been included in estimating stop times at timepoints.

Alternative A

This alternative, like three of the others, has a slightly different alignment for summer and winter seasons. Summer service begins at the Princess Dock and heads north on Franklin. Winter service does not service the Princess Dock, but instead begins the route at the Library roundabout at Franklin and Marine Way and heads north on Franklin. It then makes a left on Fourth Street, following Fourth Street as it turns into Calhoun Avenue. After this, the route begins its return to the Princess Dock by turning left on 12th Street and left again on Glacier Avenue, following Glacier Avenue as it turns into Willoughby Avenue. This alignment then takes a right on Whittier Street and heads south when it meets Egan Drive. This route is a variation of the route introduced in the initial 1984 shuttle service. It aims to service the main downtown area and its retail amenities, the Museum, and other employers that would benefit from this service. The route covers approximately 2.5 miles and would operate with 15- to 20-minute headways with a single vehicle, which would provide improved service over the existing Capital Transit route that serves the area. Achieving ten-minute headways would require the use of two vehicles.

Exhibit 4.1 Alternative A Map



DOWNTOWN CIRCULATOR SHUTTLE FEASIBILITY STUDY

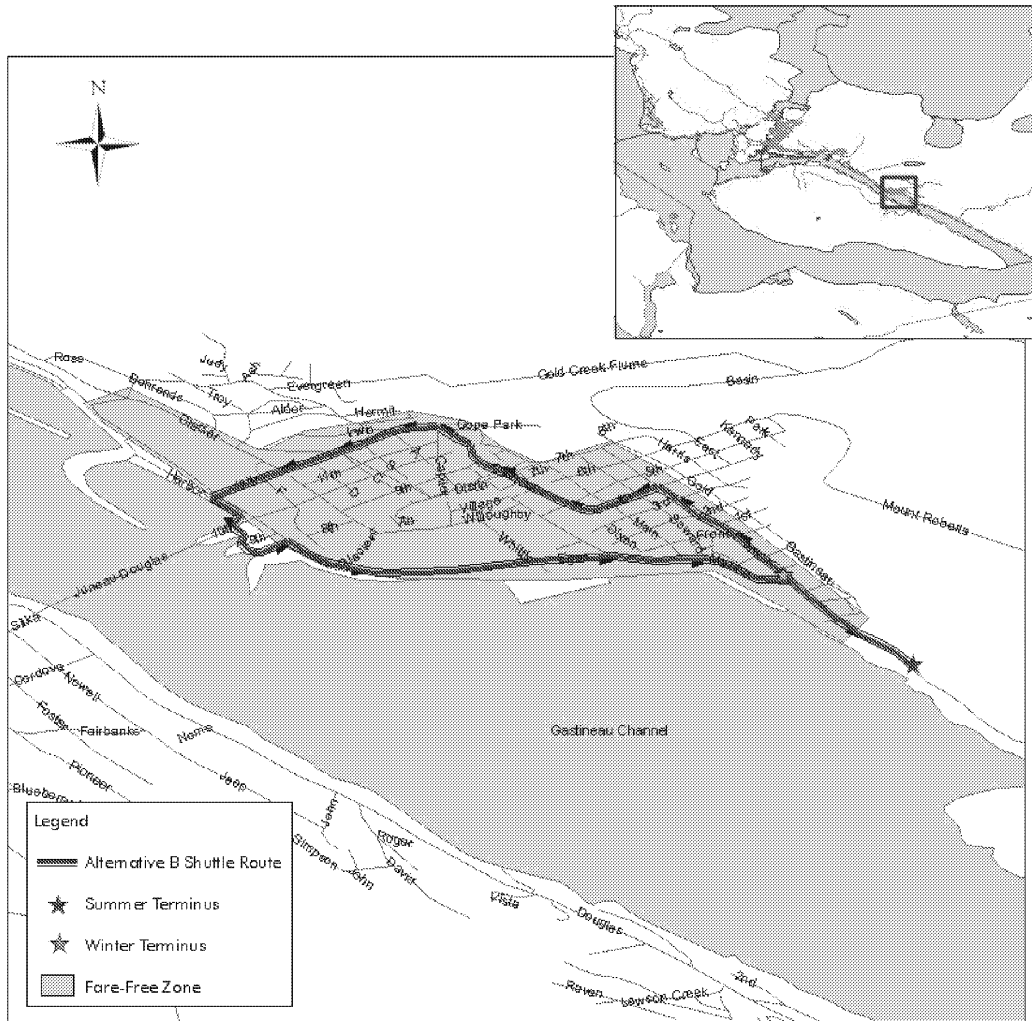
Exhibit 4.2 Alternative A Timetable

Alternative A						
Minutes from last stop	0:03:00	0:02:00	0:03:00	0:02:00	0:02:00	0:03:00
Princess Dock (summer) Library (winter)	Franklin/4th (Rainbow Foods)	Calhoun/9th (Governor's Mansion)	12th/Glacier Ave. (High School)	Willoughby/ Whittier (State Museum, Parking)	Egan/Main (Old Transit Center, Parking)	Princess Dock (summer) Library (winter)
Begin Summer timetable						
7:00 AM	7:03 AM	7:05 AM	7:06 AM	7:10 AM	7:12 AM	7:15 AM
7:10 AM	7:13 AM	7:15 AM	7:18 AM	7:20 AM	7:22 AM	7:25 AM
7:20 AM	7:23 AM	7:25 AM	7:28 AM	7:30 AM	7:32 AM	7:35 AM
7:30 AM	7:33 AM	7:35 AM	7:38 AM	7:40 AM	7:42 AM	7:45 AM
7:40 AM	7:43 AM	7:45 AM	7:48 AM	7:50 AM	7:52 AM	7:55 AM
7:50 AM	7:53 AM	7:55 AM	7:58 AM	8:00 AM	8:02 AM	8:05 AM
8:00 AM	8:03 AM	8:05 AM	8:08 AM	8:10 AM	8:12 AM	8:15 AM
8:10 AM	8:13 AM	8:15 AM	8:18 AM	8:20 AM	8:22 AM	8:25 AM
8:20 AM	8:23 AM	8:25 AM	8:28 AM	8:30 AM	8:32 AM	8:35 AM
8:30 AM	8:33 AM	8:35 AM	8:38 AM	8:40 AM	8:42 AM	8:45 AM
8:40 AM	8:43 AM	8:45 AM	8:48 AM	8:50 AM	8:52 AM	8:55 AM
8:50 AM	8:53 AM	8:55 AM	8:58 AM	9:00 AM	9:02 AM	9:05 AM
Begin Winter timetable-Summer timetable continues						
9:00 AM	9:03 AM	9:05 AM	9:06 AM	9:10 AM	9:12 AM	9:15 AM
9:10 AM	9:13 AM	9:15 AM	9:18 AM	9:20 AM	9:22 AM	9:25 AM
9:20 AM	9:23 AM	9:25 AM	9:28 AM	9:30 AM	9:32 AM	9:35 AM
9:30 AM	9:33 AM	9:35 AM	9:38 AM	9:40 AM	9:42 AM	9:45 AM
9:40 AM	9:43 AM	9:45 AM	9:48 AM	9:50 AM	9:52 AM	9:55 AM
9:50 AM	9:53 AM	9:55 AM	9:58 AM	10:00 AM	10:02 AM	10:05 AM
10:00 AM	10:03 AM	10:05 AM	10:08 AM	10:10 AM	10:12 AM	10:15 AM
10:10 AM	10:13 AM	10:15 AM	10:18 AM	10:20 AM	10:22 AM	10:25 AM
10:20 AM	10:23 AM	10:25 AM	10:28 AM	10:30 AM	10:32 AM	10:35 AM
10:30 AM	10:33 AM	10:35 AM	10:38 AM	10:40 AM	10:42 AM	10:45 AM
10:40 AM	10:43 AM	10:45 AM	10:48 AM	10:50 AM	10:52 AM	10:55 AM
10:50 AM	10:53 AM	10:55 AM	10:58 AM	11:00 AM	11:02 AM	11:05 AM
11:00 AM	11:03 AM	11:05 AM	11:08 AM	11:10 AM	11:12 AM	11:15 AM
11:10 AM	11:13 AM	11:15 AM	11:18 AM	11:20 AM	11:22 AM	11:25 AM
11:20 AM	11:23 AM	11:25 AM	11:28 AM	11:30 AM	11:32 AM	11:35 AM
11:30 AM	11:33 AM	11:35 AM	11:38 AM	11:40 AM	11:42 AM	11:45 AM
11:40 AM	11:43 AM	11:45 AM	11:48 AM	11:50 AM	11:52 AM	11:55 AM
11:50 AM	11:53 AM	11:55 AM	11:58 AM	12:00 PM	12:02 PM	12:05 PM
12:00 PM	12:03 PM	12:05 PM	12:08 PM	12:10 PM	12:12 PM	12:15 PM
12:10 PM	12:13 PM	12:15 PM	12:18 PM	12:20 PM	12:22 PM	12:25 PM
12:20 PM	12:23 PM	12:25 PM	12:28 PM	12:30 PM	12:32 PM	12:35 PM
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5:30 PM	5:33 PM	5:35 PM	5:38 PM	5:40 PM	5:42 PM	5:45 PM
5:40 PM	5:43 PM	5:45 PM	5:48 PM	5:50 PM	5:52 PM	5:55 PM
5:50 PM	5:53 PM	5:55 PM	5:58 PM	6:00 PM	6:02 PM	6:05 PM
End Winter timetable-Summer timetable continues						
6:00 PM	6:03 PM	6:05 PM	6:08 PM	6:10 PM	6:12 PM	6:15 PM
6:10 PM	6:13 PM	6:15 PM	6:18 PM	6:20 PM	6:22 PM	6:25 PM
6:20 PM	6:23 PM	6:25 PM	6:28 PM	6:30 PM	6:32 PM	6:35 PM
6:30 PM	6:33 PM	6:35 PM	6:38 PM	6:40 PM	6:42 PM	6:45 PM
6:40 PM	6:43 PM	6:45 PM	6:48 PM	6:50 PM	6:52 PM	6:55 PM
6:50 PM	6:53 PM	6:55 PM	6:58 PM	7:00 PM	7:02 PM	7:05 PM
7:00 PM	7:03 PM	7:05 PM	7:08 PM	7:10 PM	7:12 PM	7:15 PM
7:10 PM	7:13 PM	7:15 PM	7:18 PM	7:20 PM	7:22 PM	7:25 PM
7:20 PM	7:23 PM	7:25 PM	7:28 PM	7:30 PM	7:32 PM	7:35 PM
7:30 PM	7:33 PM	7:35 PM	7:38 PM	7:40 PM	7:42 PM	7:45 PM
7:40 PM	7:43 PM	7:45 PM	7:48 PM	7:50 PM	7:52 PM	7:55 PM
7:50 PM	7:53 PM	7:55 PM	7:58 PM	8:00 PM	8:02 PM	8:05 PM

Alternative B

Alternative B also begins summer service at the Princess Dock and heads north on Franklin. As with Alternative A, winter service does not service the Princess Dock, but instead begins the route at the Library roundabout at Franklin and Marine Way and heads north on Franklin. This alignment essentially follows a similar path as Alternative A, but continues on 12th Street. It begins its return to the terminus on Harbor Way, thus servicing the Department of Fish and Game and the Department of Labor near the western portion of 8th and 9th Streets. This route is longer than Alternative A by almost a quarter of a mile, producing headways nearer to 20 minutes. Achieving ten-minute headways would require the use of two vehicles. This route does improve mobility to residents needing access to the State offices discussed included on this route. The increase in the length of the route demonstrates the need for service at key employment locations and underscores the importance of their employees having transit access to other downtown amenities during the day.

Exhibit 4.3 Alternative B Map



DOWNTOWN CIRCULATOR SHUTTLE FEASIBILITY STUDY

Exhibit 4.4 Alternative B Timetable

Alternative B						
Minutes from last stop	0:03:00	0:02:00	0:03:00	0:02:00	0:03:00	0:02:00
Princess Dock (summer) Library (winter)	Franklin/4th (Rainbow Foods)	Calhoun/9th (Governor's Mansion)	12th/Glacier Ave. (High School)	Harbor/9th (DOL, DOF&G)	Egan/Main (Bus Stop, Parking)	Princess Dock (summer) Library (winter)
Begin Summer timetable						
7:00 AM	7:03 AM	7:05 AM	7:08 AM	7:10 AM	7:13 AM	7:15 AM
7:10 AM	7:13 AM	7:15 AM	7:18 AM	7:20 AM	7:23 AM	7:25 AM
7:20 AM	7:23 AM	7:25 AM	7:28 AM	7:30 AM	7:33 AM	7:35 AM
7:30 AM	7:33 AM	7:35 AM	7:38 AM	7:40 AM	7:43 AM	7:45 AM
7:40 AM	7:43 AM	7:45 AM	7:48 AM	7:50 AM	7:53 AM	7:55 AM
7:50 AM	7:53 AM	7:55 AM	7:58 AM	8:00 AM	8:03 AM	8:05 AM
8:00 AM	8:03 AM	8:05 AM	8:08 AM	8:10 AM	8:13 AM	8:15 AM
8:10 AM	8:13 AM	8:15 AM	8:18 AM	8:20 AM	8:23 AM	8:25 AM
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8:30 AM	8:33 AM	8:35 AM	8:38 AM	8:40 AM	8:43 AM	8:45 AM
8:40 AM	8:43 AM	8:45 AM	8:48 AM	8:50 AM	8:53 AM	8:55 AM
8:50 AM	8:53 AM	8:55 AM	8:58 AM	9:00 AM	9:03 AM	9:05 AM
Begin Winter timetable/Summer timetable continues						
9:00 AM	9:03 AM	9:05 AM	9:08 AM	9:10 AM	9:13 AM	9:15 AM
9:10 AM	9:13 AM	9:15 AM	9:18 AM	9:20 AM	9:23 AM	9:25 AM
9:20 AM	9:23 AM	9:25 AM	9:28 AM	9:30 AM	9:33 AM	9:35 AM
9:30 AM	9:33 AM	9:35 AM	9:38 AM	9:40 AM	9:43 AM	9:45 AM
9:40 AM	9:43 AM	9:45 AM	9:48 AM	9:50 AM	9:53 AM	9:55 AM
9:50 AM	9:53 AM	9:55 AM	9:58 AM	10:00 AM	10:03 AM	10:05 AM
10:00 AM	10:03 AM	10:05 AM	10:08 AM	10:10 AM	10:13 AM	10:15 AM
10:10 AM	10:13 AM	10:15 AM	10:18 AM	10:20 AM	10:23 AM	10:25 AM
10:20 AM	10:23 AM	10:25 AM	10:28 AM	10:30 AM	10:33 AM	10:35 AM
10:30 AM	10:33 AM	10:35 AM	10:38 AM	10:40 AM	10:43 AM	10:45 AM
10:40 AM	10:43 AM	10:45 AM	10:48 AM	10:50 AM	10:53 AM	10:55 AM
10:50 AM	10:53 AM	10:55 AM	10:58 AM	11:00 AM	11:03 AM	11:05 AM
11:00 AM	11:03 AM	11:05 AM	11:08 AM	11:10 AM	11:13 AM	11:15 AM
11:10 AM	11:13 AM	11:15 AM	11:18 AM	11:20 AM	11:23 AM	11:25 AM
11:20 AM	11:23 AM	11:25 AM	11:28 AM	11:30 AM	11:33 AM	11:35 AM
11:30 AM	11:33 AM	11:35 AM	11:38 AM	11:40 AM	11:43 AM	11:45 AM
11:40 AM	11:43 AM	11:45 AM	11:48 AM	11:50 AM	11:53 AM	11:55 AM
11:50 AM	11:53 AM	11:55 AM	11:58 AM	12:00 PM	12:03 PM	12:05 PM
12:00 PM	12:03 PM	12:05 PM	12:08 PM	12:10 PM	12:13 PM	12:15 PM
12:10 PM	12:13 PM	12:15 PM	12:18 PM	12:20 PM	12:23 PM	12:25 PM
12:20 PM	12:23 PM	12:25 PM	12:28 PM	12:30 PM	12:33 PM	12:35 PM
12:30 PM	12:33 PM	12:35 PM	12:38 PM	12:40 PM	12:43 PM	12:45 PM
12:40 PM	12:43 PM	12:45 PM	12:48 PM	12:50 PM	12:53 PM	12:55 PM
12:50 PM	12:53 PM	12:55 PM	12:58 PM	1:00 PM	1:03 PM	1:05 PM
1:00 PM	1:03 PM	1:05 PM	1:08 PM	1:10 PM	1:13 PM	1:15 PM
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1:50 PM	1:53 PM	1:55 PM	1:58 PM	2:00 PM	2:03 PM	2:05 PM
2:00 PM	2:03 PM	2:05 PM	2:08 PM	2:10 PM	2:13 PM	2:15 PM
2:10 PM	2:13 PM	2:15 PM	2:18 PM	2:20 PM	2:23 PM	2:25 PM
2:20 PM	2:23 PM	2:25 PM	2:28 PM	2:30 PM	2:33 PM	2:35 PM
2:30 PM	2:33 PM	2:35 PM	2:38 PM	2:40 PM	2:43 PM	2:45 PM
2:40 PM	2:43 PM	2:45 PM	2:48 PM	2:50 PM	2:53 PM	2:55 PM
2:50 PM	2:53 PM	2:55 PM	2:58 PM	3:00 PM	3:03 PM	3:05 PM
3:00 PM	3:03 PM	3:05 PM	3:08 PM	3:10 PM	3:13 PM	3:15 PM
3:10 PM	3:13 PM	3:15 PM	3:18 PM	3:20 PM	3:23 PM	3:25 PM
3:20 PM	3:23 PM	3:25 PM	3:28 PM	3:30 PM	3:33 PM	3:35 PM
3:30 PM	3:33 PM	3:35 PM	3:38 PM	3:40 PM	3:43 PM	3:45 PM
3:40 PM	3:43 PM	3:45 PM	3:48 PM	3:50 PM	3:53 PM	3:55 PM
3:50 PM	3:53 PM	3:55 PM	3:58 PM	4:00 PM	4:03 PM	4:05 PM
4:00 PM	4:03 PM	4:05 PM	4:08 PM	4:10 PM	4:13 PM	4:15 PM
4:10 PM	4:13 PM	4:15 PM	4:18 PM	4:20 PM	4:23 PM	4:25 PM
4:20 PM	4:23 PM	4:25 PM	4:28 PM	4:30 PM	4:33 PM	4:35 PM
4:30 PM	4:33 PM	4:35 PM	4:38 PM	4:40 PM	4:43 PM	4:45 PM
4:40 PM	4:43 PM	4:45 PM	4:48 PM	4:50 PM	4:53 PM	4:55 PM
4:50 PM	4:53 PM	4:55 PM	4:58 PM	5:00 PM	5:03 PM	5:05 PM
5:00 PM	5:03 PM	5:05 PM	5:08 PM	5:10 PM	5:13 PM	5:15 PM
5:10 PM	5:13 PM	5:15 PM	5:18 PM	5:20 PM	5:23 PM	5:25 PM
5:20 PM	5:23 PM	5:25 PM	5:28 PM	5:30 PM	5:33 PM	5:35 PM
5:30 PM	5:33 PM	5:35 PM	5:38 PM	5:40 PM	5:43 PM	5:45 PM
5:40 PM	5:43 PM	5:45 PM	5:48 PM	5:50 PM	5:53 PM	5:55 PM
5:50 PM	5:53 PM	5:55 PM	5:58 PM	6:00 PM	6:03 PM	6:05 PM
End Winter timetable/Summer timetable continues						
6:00 PM	6:03 PM	6:05 PM	6:08 PM	6:10 PM	6:13 PM	6:15 PM
6:10 PM	6:13 PM	6:15 PM	6:18 PM	6:20 PM	6:23 PM	6:25 PM
6:20 PM	6:23 PM	6:25 PM	6:28 PM	6:30 PM	6:33 PM	6:35 PM
6:30 PM	6:33 PM	6:35 PM	6:38 PM	6:40 PM	6:43 PM	6:45 PM
6:40 PM	6:43 PM	6:45 PM	6:48 PM	6:50 PM	6:53 PM	6:55 PM
6:50 PM	6:53 PM	6:55 PM	6:58 PM	7:00 PM	7:03 PM	7:05 PM
7:00 PM	7:03 PM	7:05 PM	7:08 PM	7:10 PM	7:13 PM	7:15 PM
7:10 PM	7:13 PM	7:15 PM	7:18 PM	7:20 PM	7:23 PM	7:25 PM
7:20 PM	7:23 PM	7:25 PM	7:28 PM	7:30 PM	7:33 PM	7:35 PM
7:30 PM	7:33 PM	7:35 PM	7:38 PM	7:40 PM	7:43 PM	7:45 PM
7:40 PM	7:43 PM	7:45 PM	7:48 PM	7:50 PM	7:53 PM	7:55 PM
7:50 PM	7:53 PM	7:55 PM	7:58 PM	8:00 PM	8:03 PM	8:05 PM

Alternative C

Alternative C follows an alignment similar to that detailed in Alternative A; however, Alternative C is designed to include a portion of the restaurant district of downtown. Summer service begins at the Princess Dock and heads north on Franklin, with winter service commencing at the Library roundabout at Franklin and Marine Way. This route heads north on Franklin, turning left on Fourth Street, and immediately turning left again at Seward Street. The route turns right at Front Street, right again to head back up Main Street, and then continues along the same alignment as Alternative A after turning left onto Fourth Street. The drawback to this route is the bottleneck at Seward Street and Front Street, which impacts both vehicle mobility and safety. Transit vehicles have difficulty moving safely through the area, as pedestrians and other vehicles (parked or moving) often attempt to utilize the same space. Congestion can also build in this portion of the route, resulting in undependable headway times. This is an important consideration, as the goal of the Circulator is to provide short route with efficient headways, maximizing convenience for residents and visitors alike.

Exhibit 4.5 Alternative C Map

