Downtown Circulator

Citizen Advisory Committee

FINAL REPORT

January 2002

January 7, 2002

Mayor and City Council,

In May 2001, the Bellevue Transportation Director appointed a 13-member Downtown Circulator Citizens Advisory Committee (CAC) to consider the implementation of a circulator system in Downtown Bellevue. We spent five months analyzing the feasibility of implementing a circulator system. The mission of the Downtown Circulator CAC was to answer the following questions:

1. If funded, what should the characteristics of a Downtown Circulator system be?
2. When should a circulator system be implemented?
3. If a circulator system is infeasible in the near term, should any alternatives be implemented?

We reviewed the findings of the technical study and compared the proposed Downtown Circulator to other systems. Based on ridership estimates for a Downtown Circulator, the cost per trip for the Downtown Circulator would fall in the range of $4 to $20 per trip. We also analyzed the markets a Circulator could serve and the benefits it would provide.

After studying the subject carefully, we recommend that the City delay the implementation of a circulator. Based on cost estimates and rider projections, the cost per trip did not seem to justify a City investment in this particular mode of transportation in the near term. However, we encourage city staff to continue working with transit providers and stakeholders to enhance transit services and frequencies, including the evaluation of a fare-free zone.

The Downtown Circulator CAC came together to produce the consensus recommendation contained in the final report which I am presenting on their behalf. The recommendations satisfy our charge.

I want to reiterate that the assignment given the Downtown Circulator CAC was to address the implementation of a circulator system for Downtown Bellevue, not to solve all the transit/traffic problems in our Downtown. The CAC believes that these recommendations allow the City to improve mobility options for Downtown Bellevue residents and commuters while balancing available resources, economic vitality and the quality of life.

Sincerely,

Zee Straight-Weiss
Chair, Downtown Circulator CAC

Acknowledgements

Over the past year, a number of individuals have worked diligently to develop the recommendations included in this report. Special acknowledgement is due to:

Downtown Circulator Citizen Advisory Committee Members:

Zee Straight-Weiss, Bellevue Transportation Commission
Clark Rice, Kemper Development
Stu Vander Hoek, Vander Hoek Corporation
Bob Glann, Bellevue Downtown Association TransManage
Laura Valentine, HNTB Corporation
Tina Davis, Equity Offices
Kathy O'Kelly, Hines Northwest
Todd Slind, CH2M Hill
Joshua Dalton, Downtown Bellevue resident
Suzanne Youn, Downtown small business owner
Jeff Lim, Overlake Hospital
Bernie Krane, Downtown Bellevue resident
Diane Harper, King County Metro Transit

City Council:

Mayor Chuck Mosher, Deputy Mayor Connie Marshall, Conrad Lee, Don Davidson, Phil Noble, Mike Creighton, Grant Degginger

City Manager:

Steve Sarkozy

City of Bellevue Transportation Department:

Jonathan Dong, Manuel Flores, Susie Serres, Franz Loewenherz, Steve Sindiong, Barbara Ramey, Rick Logwood, Brandon Carver, Kris Liljeblad

The Transpo Group:

Larry Sauve

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Downtown Circulator Citizen Advisory Committee Recommendations October 2001

1. **Potential Timing of Circulator Implementation** – The City should actively work with transit providers to implement a circulator system for Downtown Bellevue when ridership would result in a cost per trip of no more than a range of $2.00-3.00. Time frame for implementation is expected to occur between 2002 and 2010 when Downtown Bellevue's population is approximately 4,000 and employment reaches approximately 40,000 (compared to the 2001 population of 2825 and employment of 31,000).

2. **Circulator Features** –It is recommended that a circulator system should incorporate the following features:

   - Operate the circulator on 10-15 minute frequencies with simple and easily identifiable route(s)
   - Offer the service Monday through Saturday between 10 am and 10 p.m; Sunday between 11 am and 7 pm.
   - Use vehicles with a capacity of 12-15 passengers
   - Offer the service free of charge to users
   - Market and promote the circulator service that uses a "sophisticated" theme
   - Major destinations that should be considered for circulator service coverage include cultural, entertainment, residential and employment attractions.

3. **Alternative Services** - In the interim, the City should actively work with King County Metro Transit to implement the following strategies to increase transit ridership in Downtown Bellevue:

   - **Fare Free Zone** – allows the use of existing Metro transit services free of charge.

   - **Flexcar Program** – offers a car sharing service to Downtown residents and commuters.

   - **Van Share Program** – offers the use of vans at discounted rates for employees commuting between the transit hub and their work site.

   - **Special Pass and Incentive Programs** – could include but are not limited to Residential Pass, Flexpass, and special transit ticket programs to encourage residents and commuters to use transit. The City should also consider providing financial incentives to downtown employers to further increase their HOV rates by encouraging transit.

4. **Taxi Services** – the City should work with taxi providers to reduce barriers to increase the availability of taxi services in Downtown Bellevue. This service needs to be more visible and more easily accessible to the public.

Downtown Circulator Citizens Advisory Committee
Final Report
January 2002

Introduction

In the 1970s and the 1980s, the City, in partnership with King County Metro Transit, offered a circulator service. A transit circulator is a frequent local service using transit vans or small buses along a loop route with many collection/distribution points. However, both times the circulator failed to generate enough ridership to continue the service.

Recognizing the recent growth of employment and residents in Downtown Bellevue, the City re-visited the idea to offer a circulator service over the last 2 years. The City Council expressed interest in offering a circulator service to residents and commuters in Downtown. A Downtown Circulator has been identified as an element of the Local Transportation Vision, the City Council's priorities, and the evolving Downtown Implementation Plan Update. This service was listed as a strategy for reducing automobile travel in Downtown Bellevue and supporting other transportation demand management strategies.

The purpose of this report is to document the City's activities in studying the feasibility of implementing a circulator service in Downtown Bellevue. Activities included performing a technical study, conducting a market research survey, and working with a citizens advisory committee.

Background

Phase 1

In 1999, the Bellevue City Council requested that the Transportation Department develop a plan for a transit circulator to serve the transportation needs of Downtown Bellevue. Staff subsequently presented a draft plan to the City Council on January 31, 2000, including potential routing for six small buses to operate during mid-day on 10-minute headways, providing free fare service at a cost of approximately $500,000 per year for 12,000 annual service hours. Staff recommended further study of the circulator routing and opportunities to integrate the service implementation with construction mitigation for the I-405 Access Downtown project. City Council directed staff to develop more in depth analysis to evaluate potential transit ridership markets, including peak hour commute service. Council members also requested information on successful downtown circulator systems elsewhere and an analysis of alternative transportation technologies.

Phase 2

The City entered into an agreement with the Transpo Group to prepare the following items:

- market assessment of a circulator system
- case studies of other downtown circulator systems (Renton, Kent, Orlando, Boulder, and Spokane)
- coordination with other related efforts
- assessment of service concepts and potential technologies
- market research for potential service concepts
- development of a service design for the recommended circulator concept
- implementation strategies

The Transportation Department formed a Technical Advisory Committee that included staff from King County Metro Transit and the Bellevue Downtown Association to work with the consultant on development of the work products. King County Metro Transit contributed to the effort by providing a shuttle van to test different routes. The Bellevue Downtown Association served as a sounding board for feedback on the circulator proposal.

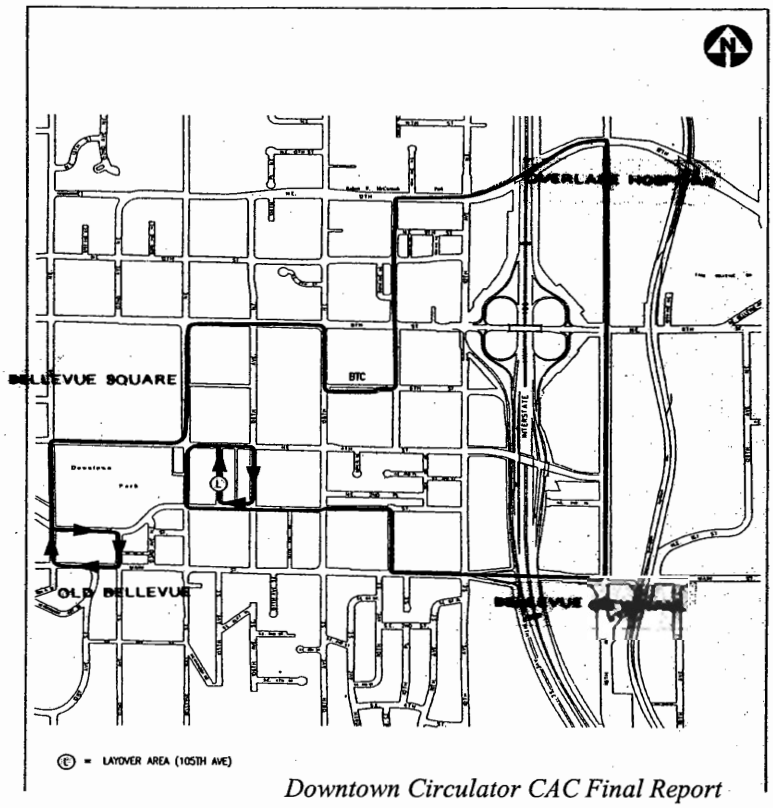
A market research survey was conducted as part of the circulator study to determine public support for circulator service concepts. The market research involved a web-based survey of downtown Bellevue office workers and residents. The survey consisted of 307 web-based interviews.

Respondents were presented with a brief description of a potential circulator service and asked the extent to which they support the idea. Based on information received through the market survey, there is strong support for the concept of a downtown Bellevue circulator. More than two out of five (42%) respondents strongly support the idea; an additional 29 percent somewhat support the proposal. Support is greatest among downtown Bellevue residents – 57 percent strongly support – compared with those who just work in downtown Bellevue – 31 percent strongly support.

Based on the market assessment, a preferred circulator design and characteristics were developed. The technical report recommended a circulator routing with the following service characteristics:

- Provide a service in Downtown Bellevue that connects major destinations that include Bellevue Square, Overlake Hospital, Bellevue City Hall, and Old Bellevue.
- Provide weekday service between 7 am and 9 pm and provide Saturday service between 9 am and 9 pm.
- Provide weekday service at 10 – 15 minute frequencies.
- Provide Saturday service at 15-minute frequencies.
- Offer the service at no-charge to riders.
- Operate the service using a 30-foot vehicle.

Recommended Circulator Routing from the Technical Study:



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Based on the recommended circulator service design and characteristics, cost estimates were prepared by the consultant. Under one scenario, King County Metro Transit could be contracted to perform the service under an agreement with the City. If King County Metro Transit performed the service, the annual cost would be $1,542,996 (cost per service hour: $63; see Attachment 2). A second option for operating the service would be to use a private contractor. Annual cost for providing the service using a private contractor would be $1,347,060 (cost per service hour: $55; see Attachment 3). In either case, King County Metro Transit's approval will be required to satisfy non-competition legal provisions.

Differences in costs between Metro and private contractor services are due to higher labor costs associated with Metro provided services. Under their agreement with the transit union, Metro is required to charge a higher hourly rate in order to cover labor and other expenses.

Additional information regarding the findings of the Downtown Bellevue Circular Market Assessment and Service Design can be found in the technical report. The technical report is contained in Appendix D.

In February 2001, the Bellevue City Council directed staff to gather public input on the proposed circulator system. Council requested that staff further involve community stakeholders and King County Metro Transit in discussions to develop the details of service. Based on input received from stakeholders, staff would further refine the circulator design and bring back to the Council for action.

Phase 3

In May 2001, a Citizens Advisory Committee (CAC) was formed to review the proposed circulator system. The Bellevue Transportation Department recruited residents, business owners, property managers, and employees from the Downtown Bellevue community to serve on the CAC. The committee consisted of thirteen members:

Zee Straight-Weiss	Bellevue Transportation Commission
Clark Rice	Kemper Development
Stu Vander Hoek	Vander Hoek Corporation
Bob Glann	Bellevue Downtown Association
Jeff Lim	Overlake Hospital
Kathy O'Kelly	Hines Northwest
Tina Davis	Equity Office
Suzanne Youn	Small Business Owner
Todd Slind	CH2M Hill
Laura Valentine	HNTB
Bernie Krane	Resident
Josh Dalton	Resident
Diane Harper	King County Metro Transit

Over the course of five months, the CAC worked with Bellevue Transportation staff to formulate a set of recommendations that would be sent to the Bellevue City Council for review and consideration.

Process

The process which led to the CAC recommendations is listed below.

CAC Meetings

The CAC met five times over a five month period to discuss various aspects of a Downtown circulator system. Zee Straight-Weiss served as Chair of the committee and staff helped to facilitate the meetings. Meeting summaries were can be viewed in Appendix A. The CAC met on the following dates:

June 21, 2001
July 19, 2001
August 2, 2001
September 20, 2001
October 4, 2001

Charge to the CAC

The Downtown Circulator CAC met for the first time on June 21, 2001. At that meeting, staff explained that the role of the CAC is to make a recommendation to the City Council on whether the City should implement a Downtown Circulator. The CAC was charged with addressing the following issues:

1. If funded, what characteristics should be included in a Downtown Circulator system?
2. When should a circulator system be implemented?
3. If a circulator system is infeasible in the near term, should any alternatives be implemented?

Issues Covered by the CAC

The Citizens Advisory Committee covered five major issues during their meetings:

- Identifying the needs for a circulator system
- Comparisons to other circulator systems
- Characteristics of a circulator system
- Measures of effectiveness to determine the benefits of a circulator system
- Alternative strategies in lieu of a circulator system

These issues are described below.

Identifying the needs for a circulator system

The CAC began its work by identifying the transportation needs that could be provided for by a circulator system. CAC identified the following transportation needs for different groups in Downtown Bellevue:

1. Downtown residents need to travel from their residences to work, shopping, and entertainment destinations.
2. Transit commuters need to travel from the Bellevue Transportation Center to their work site.
3. Downtown employees need to travel from their work sites to shopping and restaurants during the lunch hour.

These public transportation services within Downtown could be accomplished through a circulator system. A transit circulator is a frequent local service using transit vans or small buses along a loop route, with many collection/distribution points. The distribution points would be located conveniently so people could easily access Downtown attractions.

A Downtown Circulator is identified as an element of the Local Transportation Vision. This service was listed as a strategy for reducing automobile travel in Downtown Bellevue and supporting other transportation demand management strategies. Recognizing the recent growth in employment and residents in Downtown Bellevue, the CAC agreed with the City that there is a need to provide a transportation service to connect people between destinations within Downtown Bellevue. Those destinations included major office buildings, recreational, shopping, and retail attractions.

Comparisons to other circulator systems

Several circulator systems across the country were studied to obtain information on how best a circulator system could serve Bellevue and to compare characteristics of cities with successful circulator systems with Bellevue. Information was collected on the following circulator systems:

Boulder, Colorado
Bethesda, Maryland
Charleston, South Carolina
Knoxville, Tennessee
Milwaukee, Wisconsin
Phoenix, Arizona
Scottsdale, Arizona
Tucson, Arizona
Spokane, Washington
Renton, Washington

Orlando, Florida

Information regarding each city's Downtown population, employment, ridership and costs were collected and compared to Downtown Bellevue. The following chart shows a comparison of the circulator systems analyzed:

City	Total Population	Downtown Population	Downtown Employment	Ridership /Year	Cost/Trip	Attractions
Bellevue	107,000	2,895	31,000	395,850	$3.90*	Bellevue Square
Bethesda, MD	62,936	7,900	39,850	260,000	N/A	Historic, Museum, Offices, Light Rail Station
Boulder, Co	94,672	14,216	10,062	900,000	$1.70	U of Colorado, Retail, Farmers Market, Museums, Nightlife
Charleston, SC	100,122	34,714	32,786	420,000	N/A	Historic, Museums, Waterfront, Convention Center,
Knoxville, TN	173,890	26,300	17,100	441,000	$1.05	U of TN, Museums, World's Fair Park, Arts and Historic District, Theatres, Nightlife
Milwaukee, WI	650,000	11,126	55,000	235,800	N/A	Brewers, Museums, IMAX, Historic District, Mall, Festival Park, Nightlife
Phoenix, AZ	1,300,000	6,184	34,000	204,000	$1.96	Diamondbacks, Suns, Museums, Theatres, ASU, Historic, Offices, Convention Center, Nightlife
Scottsdale, AZ	215,080	3,560	10,287	81,312	$6.36	Art, Retail, Nightlife
Tucson, AZ	500,403	2,146	16,793	93,600	$3.35	Convention Center, Offices, Museums, Retail, Historic, Retail

* See Appendix C for calculation on cost/trip for conceptual Downtown Bellevue Circulator.

The above chart shows that the cost/trip varies among the different circulator systems. Cities that have a high density of population and employment, as well as major attractions in their downtowns can achieve a lower cost/trip. Because Downtown Bellevue does not yet have the density of population and employment in its Downtown, the cost/trip is relatively higher than other cities. Downtown Bellevue also has fewer major attractions. However, as it grows in population and employment and adds major attractions, the cost/trip will be comparable to other larger cities.

Characteristics of a circulator system

The CAC discussed the features that should be included in the Downtown Bellevue system if implemented. The CAC discussed the following elements of a circulator:

1. Destinations
2. Vehicle Type
3. Span of Service
4. Frequency

5. Cost
6. Marketing
7. Routing

Destinations

The CAC identified a number of destinations in Downtown Bellevue that should be served if Downtown Circulator was implemented. Destinations that were identified included:

- Bellevue Square
- Old Bellevue
- Bellevue Library
- Major office buildings
- City Hall
- Bellevue Transportation Center
- Galleria

Other destinations that were discussed but received less priority included Overlake Hospital, Bellevue hotels, and the Bellfield Office Park. The CAC recognized that the demand for travelling to these destinations varied and that measuring the demand would be important for determining the routing of the circulator.

Vehicle Type

The Committee looked at different options for the type of vehicle that could be used. Options for vehicles included cutaway vans, small buses, and historic trolleys. After reviewing the options, the CAC recommended that a 12-15 passenger transit van be used to provide the service. This particular vehicle was selected because it could travel through any part of Downtown without any difficulties. The ridership analysis for the circulator service showed that a small sized van could accommodate the projected demand. The transit van could also meet American Disability Act requirements because they are designed to be wheelchair accessible.

Span of Service

The CAC looked at different times during the day that the circulator service could be offered. Options for span of service ranged from 6 a.m to 9 p.m., Monday through Saturday or offer the service during different parts of the day. The CAC also considered whether to offer the service on Sundays.

After much discussion, the CAC wanted to provide service to residents during the latter evening hours to encourage them to use transit to travel to entertainment locations. In addition, the CAC felt it was important that the service hours be consistent Monday through Saturday in order to reduce rider confusion. Under that presumption, the CAC recommended that the service be offered Monday through Saturday between 10 am and 10 pm. Sunday service would be limited to hours 11 am – 7 pm.

Frequency

The Circulator technical report recommended that the service be offered at 15 minute frequencies. This would allow users to not need a schedule for circulator times and could connect to other transit services. However, the CAC recommended that 15 minutes would be too long for users to wait. The CAC recommended that the service be offered with 10-15 minute frequencies. Ten-minute service would be provided during high-demand hours and 15-minute service would be provided when demand was lower.

Fares

The CAC recommended that the service be offered free of charge to users. This would encourage people to use the service and would reduce boarding time for users because drivers would not have to collect fares.

Marketing

The CAC discussed a number of different marketing concepts for the Downtown circulator. During their discussions, the CAC looked at using a sophisticated marketing theme versus a whimsical theme. Designs were developed using the marketing concepts proposed by the CAC.

The CAC supported the use of a sophisticated marketing theme that would draw Bellevue's residents and commuters to use the circulator service. Slogans such as, "Ride the Q", were suggested by CAC members. Using the suggested slogans, sample designs were developed to show how the circulator service could be marketed to the public. Samples of the marketing designs are shown below:

Design #1:

Design #2:

Circulator Routing

The CAC developed two different recommendations on how the circulator could be routed and connect the major destinations. These can be viewed in Appendix B. Each alternative has its special characteristics.

Alternative A proposes a single route that connects all major destinations. A single route would be easily understood by riders and would not require transfers. Buses could run in both directions on the singular route.

Alternative B proposes to offer three routes with three distinctive colors to help identify the bus. By offering three different routes, a rider could potentially travel to their destination in faster time versus the singular route concept. However, a rider may also have to transfer depending on where their destination is located.

Measures of effectiveness to determine benefits of circulator system

To determine whether the circulator service would be effective in serving the Downtown community, the CAC requested that staff develop different measures of effectiveness. These measures would be used to quantify the benefits of the system as compared to other alternatives.

The measures of effectiveness that were proposed to the CAC included the following:

1. Does the service or alternative connect major destinations in Downtown Bellevue?
2. What are the user projections for the service or program?
3. What is the ease of implementation for the service?
4. What is the cost/trip for the service or program?

With the proposed Downtown circulator service, it was estimated that it would cost up to $1.5 million to year. The service could connect all major destinations and attract approximately 1,324 riders/day. The service would require six months of planning and coordination to implement. The cost/trip for providing the service would be $3.90 – $16.

A comparison of the measures of effectiveness can be viewed in Appendix C.

Alternative strategies in lieu of circulator system

Data was collected on the different measures of effectiveness for the circulator service and other alternatives. Other alternatives that were analyzed included a fare free zone, taxi services, van share program, Flex car program, and special fare programs. The alternatives evaluation is provided in Appendix C, and includes comparisons of markets served, projected ridership, and implementation issues.

Taxi service

The CAC proposed that the city offer subsidized taxi rides for residents and commuters that travel within Downtown Bellevue. This program could be offered at a cost of $408,800/year and serve all major destinations in Downtown Bellevue. User projects for this service is 165 riders/day and cost/trip would be approximately $10-20. The City would need to coordinate with King County on potential legal issues.

Van Share

This program would offer van services between the Bellevue Transportation Center and other destinations. Under King County's vanpool program, the program is offered to users at $50/van/month. Exact costs depend on the number of people using the van and the distance traveled. This service is appropriate for commuters who use transit service but cannot travel between the transit hub and their work site via transit. The van share program can fill in those gaps in transit service. Commuters travelling to Overlake Hospital and the Bellevue hotels are strong candidates for this program. Grant funds are available to help subsidize the costs of this program.

Flexcar

This program offers participants to use "car sharing" services to Downtown residents and commuters. Residents and commuters who participate in this program can rent automobiles for their personal use. Costs for this service depend on the distance traveled and time used for the automobile. This program has been implemented in Downtown. Currently, three flexcars are available and this program could be expanded.

Special Pass and Incentive Programs

King County and the City of Bellevue offer special pass programs that offer transit passes at reduced rates. Special pass programs that are available include the Employer Flexpass and the Residential Pass Program.

Fare Free Zone

This program would offer transit services in Downtown Bellevue free of charge to users. Modeled after the successful "Magic Carpet" program in Downtown Seattle, the City of Bellevue would partner with King County to offer a similar program. With the recent increases in transit services, more people will find transit as a viable travel option. This program would provide an additional incentive for people to use transit. Costs for the program range from $180,00-300,000/year. Transit ridership is projected to increase by 10%.

CAC Recommendation

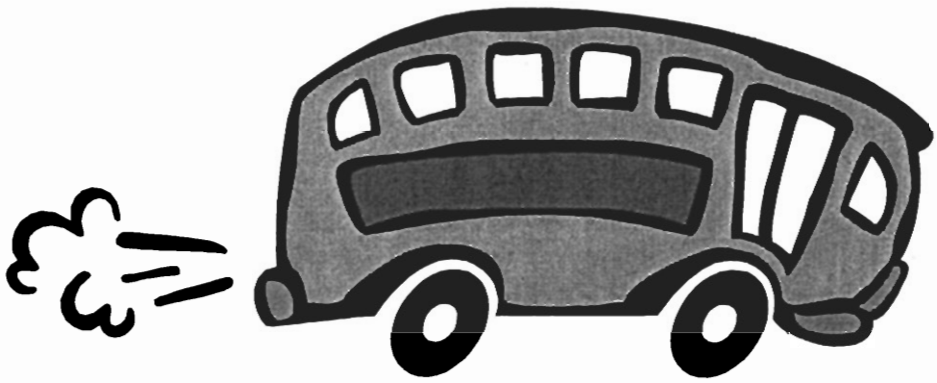
After reviewing the proposed circulator service and comparing this service to alternatives, the CAC concluded the cost/trip for the circulator service was too high to be implemented at this time. However, the CAC recognized that this service would be an important future element of Bellevue's transportation system as population and employment grows. The CAC recommended that as population and employment grows, the City should consider implementing the circulator service when the cost/trip is approximately $2-3. When the residential population reaches approximately 4,000 and the employment population reaches approximately 40,000, the targeted cost/trip can be achieved.

In lieu of the circulator service, the CAC recommended that the City pursue the option of implementing a fare free zone. With the recent expansion of transit services in Downtown Bellevue, this incentive would encourage people to use transit. Implementing a fare free zone would reduce waiting time and attract more people to use transit for their trips between Downtown Bellevue destinations.

The City should also continue to work with King County Metro to offer the Flexcar and Van Share programs to Downtown residents and commuters. Together with the special pass programs, these programs would be viable alternatives to using the automobile for travelling. Finally, the City should consider ways to reduce barriers to more available taxi services in Downtown.

Appendix A:

Downtown Circulator CAC Meeting Summaries



Downtown Bellevue Circulator
Citizens Advisory Committee
June 21, 2001
City Hall 3 a/b
4:30 – 6:30 pm

Meeting Summary

Committee Members Present:

Zee Straight-Weiss, Chair	Suzanne Youn
Clark Rice	Diane Harper
Bob Glann	Todd Slind
Jeff Lim	Laura Valentine
Stu Vanderhoek	Bernie Krane
Kathy O'Kelly	Josh Dalton

Committee Members Absent:

Tina Davis
Robert Pittman

I. Introductions and welcome

Jonathan Dong, Project Manager, welcomed the CAC to their first meeting. He introduced Zee Straight-Weiss, who will be chairing the CAC. She asked the CAC members to introduce themselves.

II. Explain purpose of the Citizens Advisory Committee (CAC)

Susie Serres, Transportation Long-Range Planning Manager, explained the purpose of the CAC. She said that Council requested that staff collect feedback from the public on the proposed Downtown Circulator. The purpose of the CAC will be to review the information from the Technical Study and form a recommendation on whether the City should implement the circulator and what it should look like.

III. Provide background information on the Downtown Circulator project

Jonathan Dong presented information from the technical study that was performed by the Transpo Group. Information included a historical background of Downtown circulators, market assessment, and preferred characteristics of the circulator based on technical data.

IV. Identify issues of concern among CAC members

CAC members were asked to identify issues that they would like to discuss during their meetings. Issues that were raised included the following:

- Cost of the circulator
- Routing
- Connecting Overlake to Downtown

- Determine what markets to serve
- What areas need the circulator
- How the circulator can serve office workers
- Alternative services, including taxi services
- Cost assessment
- Analysis of local trips
- Demographics of market
- Community identity and value
- Leverage for existing transit system
- Microsoft example
- Demand responsive service
- How to make regular transit service better
- Serving Meydenbauer Center
- Council approval for circulator budget

V. Discuss coordination of Downtown Circulator with Distributed Services Network

Diane Harper presented information on the upcoming September 2001 service change. The service change includes implementation of the Downtown Bellevue distributed service network. This service will disperse transit services throughout Downtown and not all routes will pass through the Transit Center.

VI. Review circulator concepts and service designs

This item was deferred to the next meeting

Other items of business:

The schedule for the next three meetings have been set:

July 19, 2001
August 2, 2001
September 6, 2001

All meetings will be held between 4:30 – 6:30 p.m. at Bellevue City Hall.

Downtown Bellevue Circulator
Citizens Advisory Committee
July 19, 2001
City Hall 3 a/b
4:30 – 6:30 pm

Meeting Summary

Committee Members Present: Zee Straight-Weiss, Bob Glann, Stu Vander Hoek, Kathy O'Kelly, Tina Davis, Laura Valentine, Josh Dalton

Absent Committee Members: Suzanne Youn, Clark Rice, Jeff Lim, Diane Harper, Todd Slind, Bernie Krane, Robert Pittman

Staff:

Jonathan Dong, Project Manager
Susie Serres, Long-Range Planning Manager

I. Re-cap from last meeting (Jonathan)

Jonathan Dong reminded the committee on the items that were covered at the last meeting. He reiterated that the purpose of the CAC is to make a recommendation to the City Council on whether a circulator system should be funded and what the system should look like (if funded).

II. Discuss and agree upon successful outcomes for Downtown Circulator CAC process (all)

Susie Serres introduced the subject of developing successful outcomes for the Downtown Circulator CAC process. She wanted the CAC to identify successful outcomes so the group understood its purpose and goals.

Stu Vander Hoek recommended that the CAC address the issue of the Access Downtown construction activities. The proposed circulator should be considered as a mitigation measure for the construction activities. He also suggested having discussion on defining successful ridership for a circulator system.

Zee Straight-Weiss suggested outcomes of the CAC process. Those outcomes include a recommendation to the City Council on 1) whether to fund a circulator service; 2) if funded, determine routing, revenue, timeline for implementation (in place at least 3 months prior to start of construction activities), a marketing approach, and expected ridership.

III. Discuss information from market survey and potential circulator routings (Jonathan)

Jonathan reviewed the key findings of the market research survey and identified key markets in Downtown Bellevue that should be served by the circulator. Some of those key markets include: Bellevue Square, Bellevue library, Overlake Hospital, City Hall, Old Bellevue and the Bellevue Transportation Center.

IV. Identify markets for Downtown Circulator (All)

V. Group breakout: develop circulator routing (All)

The group split into two small groups to develop a circulator system. Both groups identified a routing system and presented their recommendation to the full group.

VI. Review items for next meeting

The next meeting is scheduled for August 2, 2001. The meeting agenda includes:

- Further discussion on the circulator routing
- Marketing the circulator
- Frequency
- Span of service

Downtown Bellevue Circulator
Citizens Advisory Committee
August 2, 2001
City Hall 4 a/b
4:30 – 6:30 pm

Meeting Summary

Committee Members Present: Zee Straight-Weiss, Bob Glann, Stu Vander Hoek, Kathy O'Kelly, Tina Davis, Josh Dalton, Diane Harper, Bernie Krane

Absent Committee Members: Suzanne Youn, Clark Rice, Jeff Lim, Robert Pittman, Laura Valentine

Staff:
Susie Serres, Long-Range Planning Manager
Manuel Flores, Associate Planner

1. **Discuss proposed circulator routes from July 19th meeting.**

   a. Zee provided a discussion of the Alternative A or "Yellow" route, stating the following characteristics and advantages:
      - Broad coverage;
      - Avoids busy streets by crossing 4th and 8th, rather than traveling along them;
      - Goes through Bel-Square;
      - Accesses Hotels, Overlake Hospital, Car Dealers and City Hall (coverage could be dependent on supportive funds)
      - Route is one-way (clockwise) with 10 minute headways
      - Route does not require transfers
      - Route gets you close to where you want to go

   b. Josh provided a discussion of the Alternative B or "Red" and "Blue" and "Green" Routes, stating the following characteristics and advantages:
      - Route is made up of up to 4 components that can be pieced together;
      - Color of routes are painted on streets, same color as buses, so that it is easy to understand;
      - Simple loop structure of route aids in ease of understanding
      - Routes are envisioned to be two-way;
      - Access to Hotels and Car Dealers could be provided with supportive funds;
      - Transfers are an issue – potentially a disadvantage
      - Route gets you close to where you want to go

2. **Make Recommendation on Frequency of Service**
   Diane Harper prefaced the discussion with the following comments:
      - Service frequency will affect costs because the way that frequency is increased on a route is by providing additional buses.
      - 10 minute frequencies allow passengers to catch a bus without carrying a schedule.
      - 15 minute frequencies typically require passengers to carry a schedule with them.

   b. The Committee recommended that staff prepare example cost estimates assuming both 10 and 15 minute frequencies.

3. **Make Recommendation on Span of Service**
   a. Discussion regarding span of service, or what hours the circulator would run, was relatively brief. Key considerations included that the hours be as consistent as possible, that the morning peak did not need to be served, and that evenings and weekends were important service times.
   b. The Committee asked staff to evaluate costs for the following service periods:
      - Monday - Saturday, 10 AM - 10 PM
      - Sunday 11 AM - 7 PM

4. **Vehicle Selection**
   a. The Committee reviewed vehicle types and made the following recommendations:
      - Vehicles should be small enough to maneuver easily in the downtown, and carry about 12-20 people.
      - Vehicles should allow light in and be comfortable to ride in while sitting or standing.
      - Staff should return with more pictures of vehicles meeting these criteria.

5. **Marketing**
   a. Marketing includes the look of the bus (paint or sign that identifies service), and the slogan that advertises it.
   b. Staff asked the Committee to review different concepts for names and slogans focusing on the following themes: Whimsical/fun, sophisticated/witty, stylish/elegant, thrifty, and Access Downtown (related to construction project).
   c. The Committee chose sophisticated/witty as the appropriate theme.
   d. The Committee generated their own idea - the "CirQlator" with a catch-phrase of "Catch the Q".
   e. Diane Harper made the following statements about buses available through King County
      - In her experience, Circulators work best if they have a strong identity that distinguishes the vehicles from other Metro buses
      - Metro does have the ability to have some of their fleet painted for a Circulator service but due to vehicle maintenance schedules and fleet dispatch practices, Metro cannot commit to making sure a Circulator-painted vehicle will be used on it's intended route. For example, a Bellevue Circulator could end up on a Lynwood Route, and the Bellevue Circulator service could end up with a regular Metro bus.
      - Diane confirmed that one way around this problem is to contract through a private transit service provider.
   f. The Committee asked staff to return with some artistic concepts showing how some of the vehicle types would look with the Q marketing scheme.

6. **Next Meeting**
   a. The next meeting is scheduled for September 6th.
   b. In summary, the Committee asked staff to return with several concepts that they could mix-and-match in order to make a recommendation to Council regarding a Circulator service. Components of the concepts should include:
      - Service hours stated above - broken down into sets (Monday - Friday, Saturday, Sunday) so that the cost for each component is known
      - Service frequencies of 10 and 15 minutes
      - Routes A and B broken into specific loops so that the Committee can understand the cost of each loop
      - Several vehicle types with marketing designs on them - including costs and maintenance implications (Metro contracted vs. vendor contracted).
   c. The Committee agreed to answer a questionnaire in order to expedite information gathering in advance of the next meeting.
   d. Staff agreed to send materials out in advance of the next meeting so that the Committee would be better prepared to make a recommendation at that meeting.

Downtown Circulator Citizens Advisory Committee Meeting
September 20, 2001
4:30 – 6:30 pm
Kelsey Mercer Creek Conference Room
(2nd Floor Leavitt Building)

Meeting Summary

CAC Members present: Zee Straight-Weiss, Clark Rice, Laura Valentine, Diane Harper, Bernie Krane, Bob Glann, Jeff Lim

Members absent: Todd Slind, Kathy O'Kelly, Tina Davis, Suzanne Youn, Stu Vander Hoek, Joshua Dalton

Staff in attendance: Susie Serres, Jonathan Dong, Manuel Flores

I. Re-cap from last meetings

Jonathan opened the meeting and re-capped the work of the Downtown Circulator CAC. In their past meetings, the group discussed the market potential for a circulator system, potential circulator routings, measures of effectiveness and a potential marketing concept for the circulator.

The CAC brought up the following issues at their last meeting:

1. How do we determine when circulator should be implemented?
2. What measures of effectiveness should be used to evaluate service?
3. What kind of marketing concepts should be used for the circulator?

As a follow up to the issues raised by the CAC at their last meeting, staff brought proposed measures of effectiveness that would be used to determine when a circulator systems should be implemented. Staff also brought proposed ideas for marketing the circulator system to the public.

II. Remind CAC of the mission and goals we are trying to achieve

Jonathan reminded the CAC of its mission and goals. The purpose of the CAC was to answer the following questions:

A. If funded, what should the circulator look like?
B. Using MOEs, when should the circulator be implemented?
C. If circulator should not be implemented in immediate future, what alternative steps should be implemented?

III. Proposed Measures of Effectiveness

In order to address the issue of when a circulator system should be implemented, staff proposed different measures of effectiveness that would be used. Those measures included the following:

A. Does it serve the major destinations?
B. Projected ridership/users
C. Ease of implementation (this refers to how easy would it be for the City to implement the proposed system)
D. Cost/user

In addition to these measures, it was proposed by the CAC that a fifth measure be added: ease of use by the potential rider.

IV. Proposed Schedule for Implementing Circulator

In order to determine whether Downtown Bellevue was ready for a circulator system, staff performed research on other cities that had circulator systems. Staff researched successful circulator systems across the country and analyzed their ridership, cost, and what major destinations they served. The following systems were analyzed:

Boulder, CO
Phoenix, AZ
Milwaukee, WI
Tucson, AZ
Scottsdale, AZ
Knoxvill, TN
Charleston, SC
Bethesda, MD

Each of these systems served different sets of populations, destinations and functions. Cost per trips ranged from $1.05 to $6.36.

It was requested by the CAC that more detailed information be provided on these other systems. Routings, frequency and schedule were other pieces of information that would be useful.

After presenting information on other circulator systems, staff presented information on traffic volumes in Downtown Bellevue. Traffic volumes are another measure to determine whether the City is ready for a circulator system. According to projected data, traffic volumes are expected to increase in 2012 and 2020. Currently, Bellevue Square is the major traffic generator in Downtown Bellevue. However, in future years, other TAZs in Downtown Bellevue will generate traffic comparable to Bellevue Square.

V. Alternative Steps Before Implementing Circulator

Staff discussed alternatives for a circulator system. Those alternatives included the following:

A. Taxi service

Cost for this service ranges from $10-20 trip.

B. Fare free zone
C. Van Share program
D. Area-wide Flexpass program
E. Residential pass program

VI. Staff Recommendation for Downtown Circulator

Staff presented their recommendation tot the CAC. That recommendation included the following:

1. Do not implement a Downtown Circulator system in the near future. The cost/trip prohibits the service from being cost effective.
2. In the interim, pursue other options for improving mobility for Downtown residents and commuters. Those options include the Fare Free Zone, Flexcar, Van Share and Special Pass programs.
3. Implement a circulator system when the cost/trip is approximately $2/trip.

The CAC will discuss the staff recommendation at their next meeting that is scheduled for:

Thursday, October 4, 2001
4:30 – 6:30 p.m.
Kelsey Mercer Creek Conference Room

Downtown Circulator Citizens Advisory Committee Meeting
October 4, 2001
4:30 – 6:00 pm
Kelsey Mercer Creek Conference Room
(2nd Floor Leavitt Building)

Meeting Summary

Committee Members Present: Zee Straight-Weiss, Bob Glann, Stu Vander Hoek, Todd Slind

Staff: Jonathan Dong, Kris Liljeblad

I. Re-cap from last meetings

Jonathan reviewed the discussion from the last Downtown Circulator CAC meeting. At the meeting, staff presented information on other circulator systems from around the country. Information on services provided, costs, and ridership were presented and compared to projected costs and ridership of the Downtown Bellevue circulator.

Alternatives to the Downtown Circulator was also presented. Alternatives included a fare free zone, taxi services and special pass programs.

Information was also presented on projected traffic volumes in Downtown Bellevue. As Downtown Bellevue grows, attractions will increase in certain parts of Downtown Bellevue. By the year 2012, many areas in Downtown Bellevue will equal the attractions that Bellevue Square currently generates.

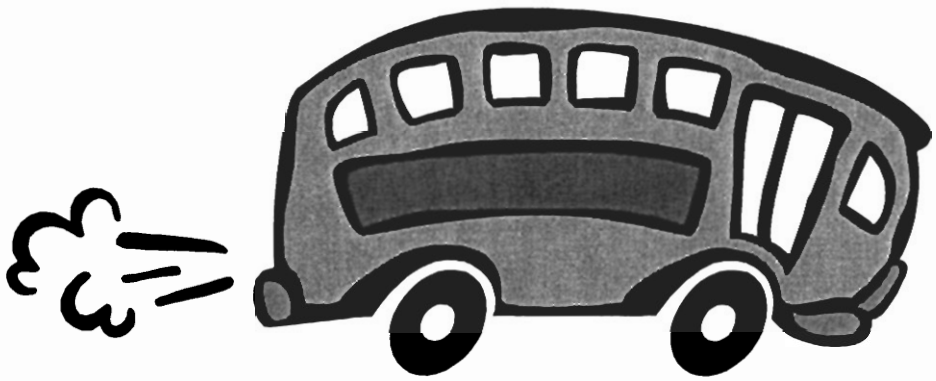
II. Review draft CAC recommendation for implementation of circulator

Jonathan presented the draft CAC recommendations for discussion by the CAC. The draft included a recommendation that the City implement a circulator when the cost/trip is approximately $2-3.

After reviewing the draft recommendation and making numerous edits, the CAC agreed upon the recommendation.

Appendix B:

Potential Routings of Circulator System



Potential Routings of Circulator System

The CAC developed two different recommendations on how the circulator could be routed and connect the major destinations. These can be viewed in Appendix B. Each alternative has its special characteristics.

Alternative A

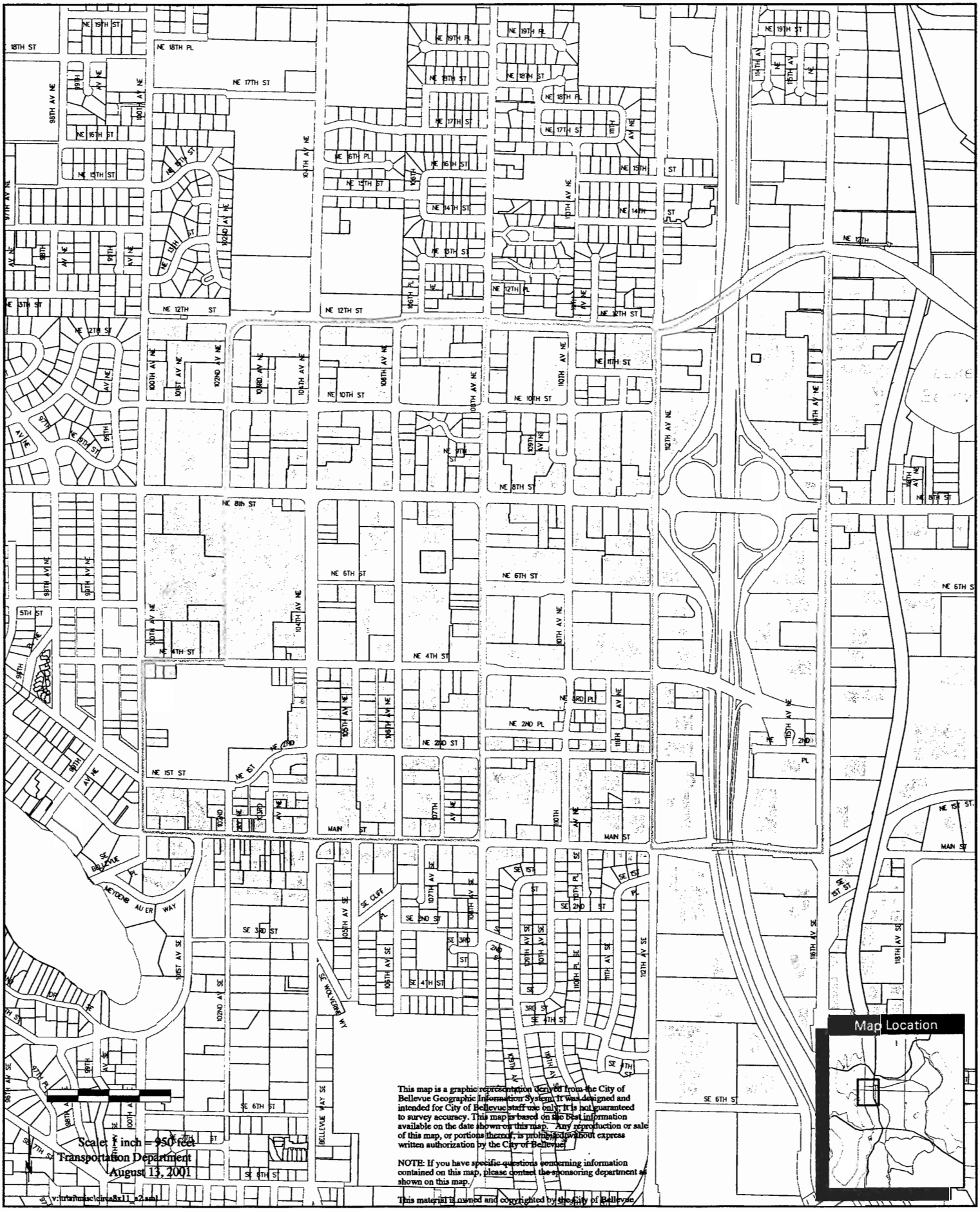
Alternative A proposes a single route that connects all major destinations. A single route would be easily understood by riders and would not require transfers. Buses could run in both directions on the singular route.

Alternative B

Alternative B proposes to offer three routes with three distinctive colors to help identify the bus. By offering three different routes, a rider could potentially travel to their destination in faster time versus the singular route concept. However, a rider may also have to transfer depending on where their destination is located

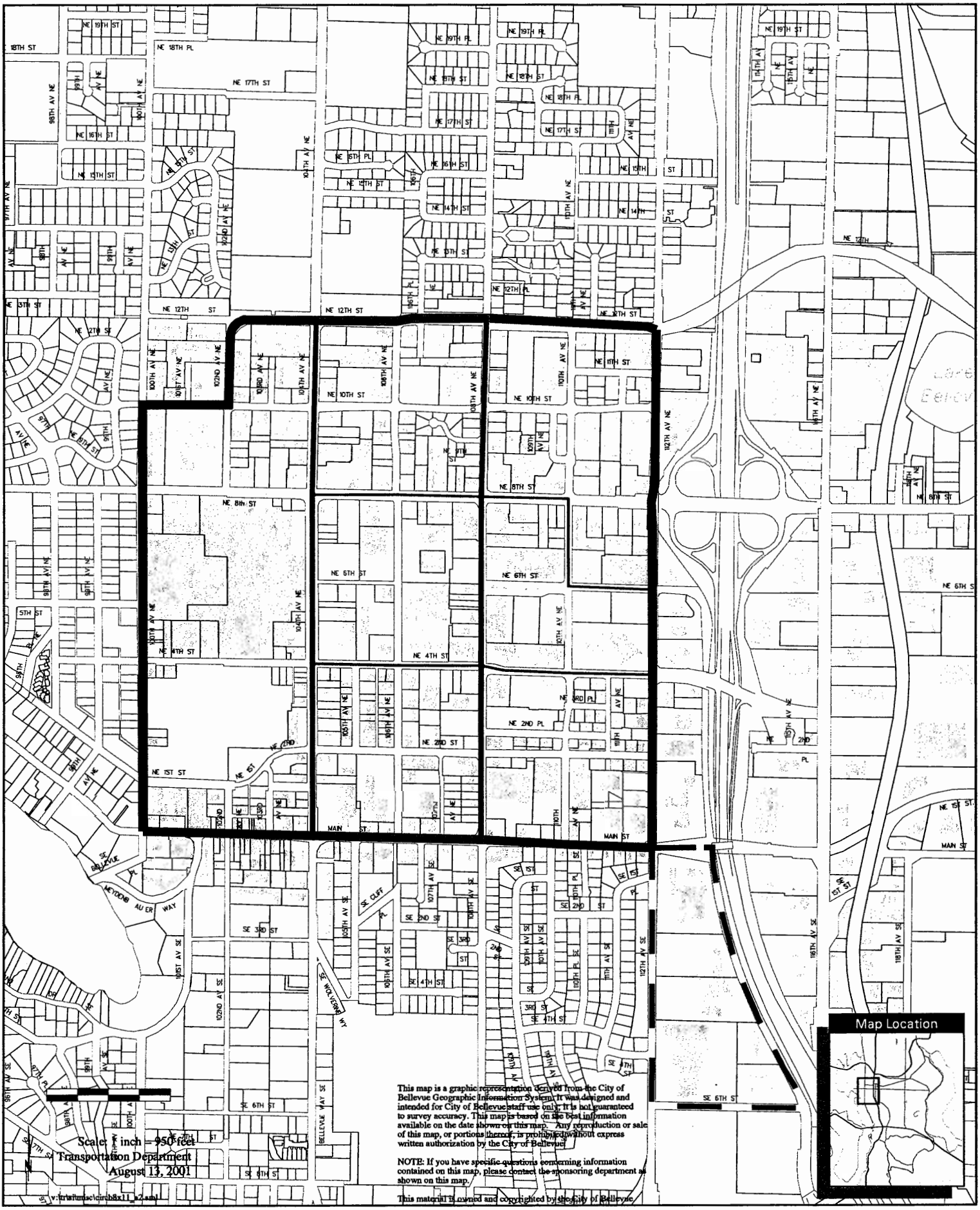
City of Bellevue

Circulator Alt. A



City of Bellevue

Circulator Alt. B



Scale: 1 inch = 950 feet
Transportation Department
August 13, 2001

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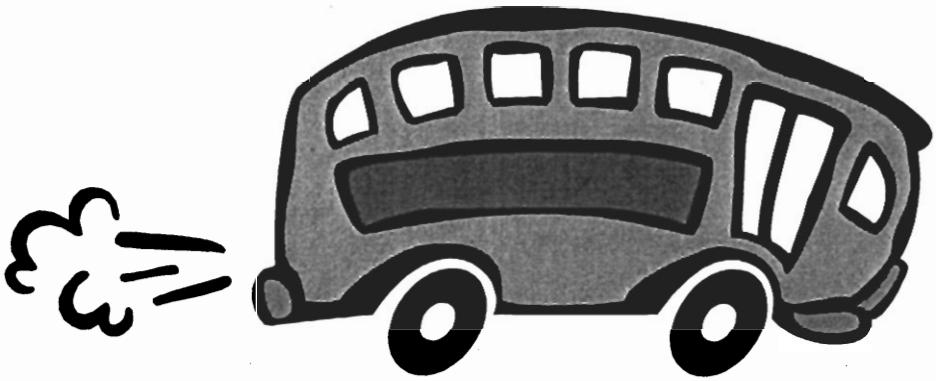
Appendix C:

Technical Analysis Supporting Citizen Advisory Committee Recommendation



Downtown Circulator Feasibility Study
Comparison of Circulator and Alternatives: Alternatives Evaluation Summary
September 2001

Circulator System	Description	Market Served	Cost/Year	Connects Major Destinations?	User Projections	Ease of Implementation	Cost/Trip	Comments
Downtown Circulator	Implement a circulator system that would connect major destinations in Downtown Bellevue.	Residents Commuters Visitors Shoppers	Up to $1.5 million/year	Yes	10-20 riders/hour 1,324 riders/day (299 days of service per year)	Implementation requires six months of planning and coordination.	$3.90 - 16/Trip	• King County Metro or private vendor could provide service. • Rate for Metro service is $63/hr.
Alternatives								
Taxi Service	Program would offer subsidized taxi rides for residents and commuters that travel within Downtown Bellevue.	Residents Commuters Visitors Shoppers	$408,800/year	Yes	165 riders/day	City would need to coordinate with King County on any legal issues.	$10-20/trip	• Potential taxi service is limited by available taxis. • Projected ridership assumes 165 trips/day • Days of operations would be similar to proposed circulator service (Monday – Saturday)
Van Share	Program offers van services between the Bellevue Transportation Center and other destination.	Commuters	$50/van/month	Yes	TBD	Program is ready for implementation. Outreach with employers needed.	Costs depend on distance and number of people using van.	• Grant funds are available for program. • Program would require users to pay for van at $50/month. • Program is useful for connecting trips between transit hub and work site.
Flex Car	Program offers participants the ability to "rent" a car for any purpose.	Residents Commuters	TBD	Yes	TBD	Program will be starting in Fall 2001.	Costs depend on mileage.	• King County is lead administrator for program. • Program is offered as benefit with Residential pass demonstration program.
Special Fare Programs								
Fare Free Zone	Program would offer free transit trips taken within Downtown. Passengers travelling outside of Downtown would be required to pay fare. Program may also be offered through a token system.	Residents Commuters Visitors Shoppers	$180,000-300,000/yr	Yes	Transit ridership can increase up to 10% over existing ridership.	City would need to negotiate agreement with King County.	TBD	• Would require interlocal agreement with King County • Costs include foregone fare revenue plus administrative costs. • Transit service is limited to existing services; no new service is proposed. • City would need to develop education program for users to understand program.
Area-wide Flexpass	Program offers annual transit passes at discount rates to participating employers	Commuters	$100,000/year	N/A	Ten employers have currently signed up for program.	Program has started.	$225/annual pass	• Program is being offered through Access Downtown Rideshare Program. • King County and City are jointly funding program.
Residential Pass	Program offers transit passes to residents at discounted rates.	Residents	TBD	N/A	Demonstration program will provide data on participation rates.	Demonstration program will begin in Fall 2001.	$225/annual pass	• Demonstration program will begin January 2002. • Five residential buildings will participate in demonstration program.

Downtown Circulator Ridership and Cost Forecasts
December 2001

Using different sets of residential and employment data, the City of Bellevue Transportation Department projected the amount of ridership and costs per trip for the circulator under three different scenarios. Ridership numbers were calculated using the following assumptions:

1. Twenty-five percent of Downtown residents would use the circulator service at least once per week. This would generate two trips per participating resident per week.

2. Ten percent of Downtown commuters would use the circulator service at least once per week. This would generate two trips per participating commuter per week.

Based on the ridership projected, the cost per trip for each scenario was calculated using the same annual service cost of $1,542,996. Each scenario projected a different cost per trip because of the differences in projected ridership.

The population and employment numbers used for each scenario are listed below:

Scenario 1 (2001 data):

Residential population: 2,825
Employment: 31,000
Cost per trip: $3.90

Scenario 2 (year to be determined):

Residential population: 4,000
Employment: 40,000
Cost per trip: $2.97

Scenario 3 (year to be determined):

Residential population: 5,000
Employment: 62,500
Cost per trip: $1.99

Ridership and Cost Forecasts for Downtown Circulator

Scenario #1: 2001 Forecast for Circulator Ridership and Costs Using Metro Services

		User Percentage	Persons who could use service	# Trips/Week	Weekly Trips	Annual Trips
Residential Population	2825	0.25	706.25	2	1412.5	73450
Employment Population	31000	0.1	3100	2	6200	322400
			Total Trips:		7612.5	395850
			Service hours		471	24492
			Trips/Service Hour:		16.16	16.16
			Service cost:		$29,673	$1,542,996
			Cost per trip:		$3.90	$3.90

Scenario #2: Forecast for Circulator Ridership and Costs Using Metro Services with Cost/Trip at $2.97 (Year to be determined)

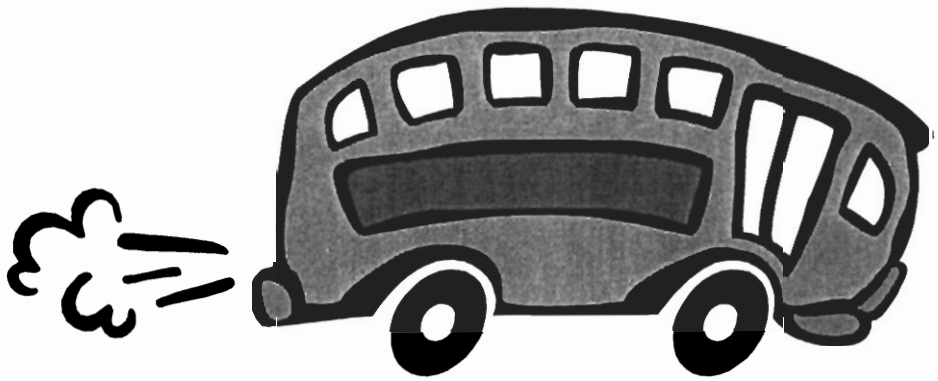
		User Percentage	Persons who could use service	# Trips/Week	Weekly Trips	Annual Trips
Residential Population	4000	0.25	1000	2	2000	104000
Employment Population	40000	0.1	4000	2	8000	416000
			Total Trips:		10000	520000
			Service hours		471	24492
			Trips/Service Hour:		21.23	21.23
			Service cost:		$29,673	$1,542,996
			Cost per trip:		$2.97	$2.97

Scenario #3: Forecast for Circulator Ridership and Costs Using Metro Services with cost/trip at $1.99 (Year to be determined)

		User Percentage	Persons who could use service	# Trips/Week	Weekly Trips	Annual Trips
Residential Population	5000	0.25	1250	2	2500	130000
Employment Population	62000	0.1	6200	2	12400	644800
			Total Trips:		14900	774800
			Service hours		471	24492
			Trips/Service Hour:		31.63	31.63
			Service cost:		$29,673	$1,542,996
			Cost per trip:		$1.99	$1.99

Appendix D:

Downtown Bellevue Circulator Market Assessment and Service Design, prepared by the Transpo Group, Dec. 2000



FINAL REPORT

Downtown Bellevue Circulator Market Assessment and Service Design Study

Prepared for:

City of Bellevue

December 21, 2000

Prepared by:

The Transpo Group, Inc.
In Association with
Northwest Research Group

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1. INTRODUCTION

Downtown Bellevue has experienced major growth in the past 20 years involving office, retail, entertainment, and more recently residential land uses. This growth has been accompanied by major impacts on mobility and circulation affecting the downtown community. While general capacity improvements such as the NE 4th Street interchange have occurred, major regional transit enhancements have also taken place that impact downtown Bellevue. These transit-related items have primarily involved the *Regional Express* program by Sound Transit and the gradual implementation of King County Metro's *Six-Year Transit Development Plan (1996-2001).*

While regional and general Eastside have enhanced transit access to and from downtown Bellevue there is still a need regarding access *within* the downtown. Several major Metro and Sound Transit routes do not penetrate the downtown core. Also, direct transit connections are lacking between major downtown generators and several routes operating in the downtown provide 30- or 60-minute service during midday and evening periods. These service levels may not be sufficient to attract patrons for trips taking place in the downtown area.

Given downtown Bellevue's growth, in terms of both the variety and amount of activities and resulting travel impacts, the City of Bellevue undertook a study of a potential downtown circulator service. The study involved a market assessment and service design for the service. The need for this study was further enhanced by important developments affecting downtown. These developments include:

- The decision by the City of Bellevue, King County Metro, and Sound Transit to implement a *distributed facilities concept* in downtown Bellevue. This concept calls for an expanded Bellevue Transportation Center (BTC) at its current site and the provision of new bus stops, layover sites, and street improvements in downtown Bellevue.
- Various road projects under the *Access Downtown* effort will result in traffic delays to, from, and within downtown Bellevue. An enhanced local circulation system will help address mobility needs within the downtown core.
- Construction of a direct access ramp between BTC and I-405 will result in further enhancements for local and regional transit service accessing downtown Bellevue.

This report documents the results of the study that examined the market assessment and service design for a potential circulator operating in downtown Bellevue. This effort was a follow-up to a study conducted in 1999 by *Mirai Associates*, which identified characteristics of a potential circulator system. The more recent effort carried out by *The Transpo Group* examined a circulator from the standpoint of potential markets. A key part of the market assessment was a survey of both workers and residents in downtown Bellevue. The study also examined, through five case studies, examples of downtown circulator services operating in other communities.

The following study report consists of several sections. Following this Introduction, Section 2 - *Market Assessment* identifies current and future characteristics of downtown Bellevue that could influence the general design and other features of a transit circulator. The results of the *Case Studies* are presented in Section 3. These studies were carried out for five downtown circulators: Spokane, Kent, and Renton, Washington; Boulder, Colorado; and Orlando, Florida. Section 4, *Coordination Efforts*, identifies other studies, plans, and roadway projects affecting downtown Bellevue. These various activities can affect service features and overall viability of a future downtown circulator.

Based on the general market assessment, the results of the case studies, and coordination efforts, Section 5 describes *Direction for Potential Circulator Concepts*. Section 6 describes *Potential Service Characteristics* of a circulator while Section 7 identifies *Potential Circulator Technologies,* including vehicles, for the service. In addition to a new circulator service, downtown mobility could be enhanced through fare free service using current routes. Section 8 further discusses *Fare Free Options*. Section 9 identifies the *Direction for Service Design* for a downtown circulator. Key bases for this direction are results of the market survey carried out under this study. *Appendix B* contains further description of the survey findings. The recommended features of the *Circulator Service Design* are presented in Section 10. Potential features of this service design include:

- Service area, options regarding route structure, and access to major destinations to meet current and future market demand;
- Service levels such as frequencies and service span;
- Possible fare structure; and
- Types of vehicles and supporting features of the service.

Section 11 describes potential *Implementation Strategies* for the circulator service. These strategies involve methods to help initiate circulator operations, including responsibilities for follow-up planning and operations. The section also describes methods to help market the service to the public.

2. MARKET ASSESSMENT

The market assessment for a potential downtown circulator included review of current and future population as well as employment in the downtown area. The assessment also reviewed planned major land use activities in downtown Bellevue in terms of location and type of development. Current public transit facilities such as bus zones and transit centers were identified, along with recent ridership patterns at each bus zone. Comparisons were made between current transit zone locations and locations of planned developments.

Land Use and Travel Patterns

Available information provided by the City of Bellevue's Transportation Department identifies current and projected information on office and residential development. Also, travel pattern estimates identified by the travel-forecasting model provide an indication of potential demand for a downtown circulator.

Land Use

Information provided by City of Bellevue staff identifies estimated square footage of office space in the downtown area by 2010. By 2010, total square footage of offices space is estimated at 9.7 million square feet. This volume compares to approximately 5.2 million square feet in 1998. During the 1990's downtown Bellevue has seen a major growth in downtown population per forecasts from the Puget Sound Regional Council. This population is expected to grow from approximately 4,900 in 1990 to 11,000 in 2020.

Travel Patterns

A review of current travel patterns in the Bellevue indicates a small but growing number of downtown workers who also reside in downtown. For this market, daily work trips via auto in the downtown area are estimated to grow from approximately 500 in 1999 to almost 2,000 trips in 2011. For non-work auto travel, there are already a substantial number of trips starting and ending in the downtown area. It is estimated that daily non-work travel including current residents and visitors will grow from approximately 43,000 to over 106,000 between 1999 and 2011.

Transit Facilities – Current Status and Future Plans

This section identifies existing and future transit facilities that can help support and direct a future downtown Bellevue circulator. The section also describes demand patterns at current bus zones as identified by King County Metro.

Existing Facilities

Figure 1 illustrates existing transit facilities in downtown Bellevue including bus zones, layover areas, and transit centers. The BTC, located at 108th Avenue NE and NE 10th Street, provides the primary focal point for transit service. The facility, consisting of seven bus bays, is accessed by a variety of transit services, including:

- Sound Transit Regional Express routes serving downtown Seattle (Route 550), Federal Way (565), and various locations in Snohomish County (530, 531, 532, and 535);
- Eighteen Metro routes connecting to several locations in the Eastside, Seattle, and South King County;
- Community routes serving areas such as Factoria/Somerset (921); and
- School-related service such as Route 886 connecting Clyde Hill and Bellevue High School.

The level and variety of services at BTC results in it being a major attractor for any locally oriented transit service operating in the downtown area. However, routes operating in the downtown area are serving a variety of destinations and direct access to the BTC is not their major service goal.

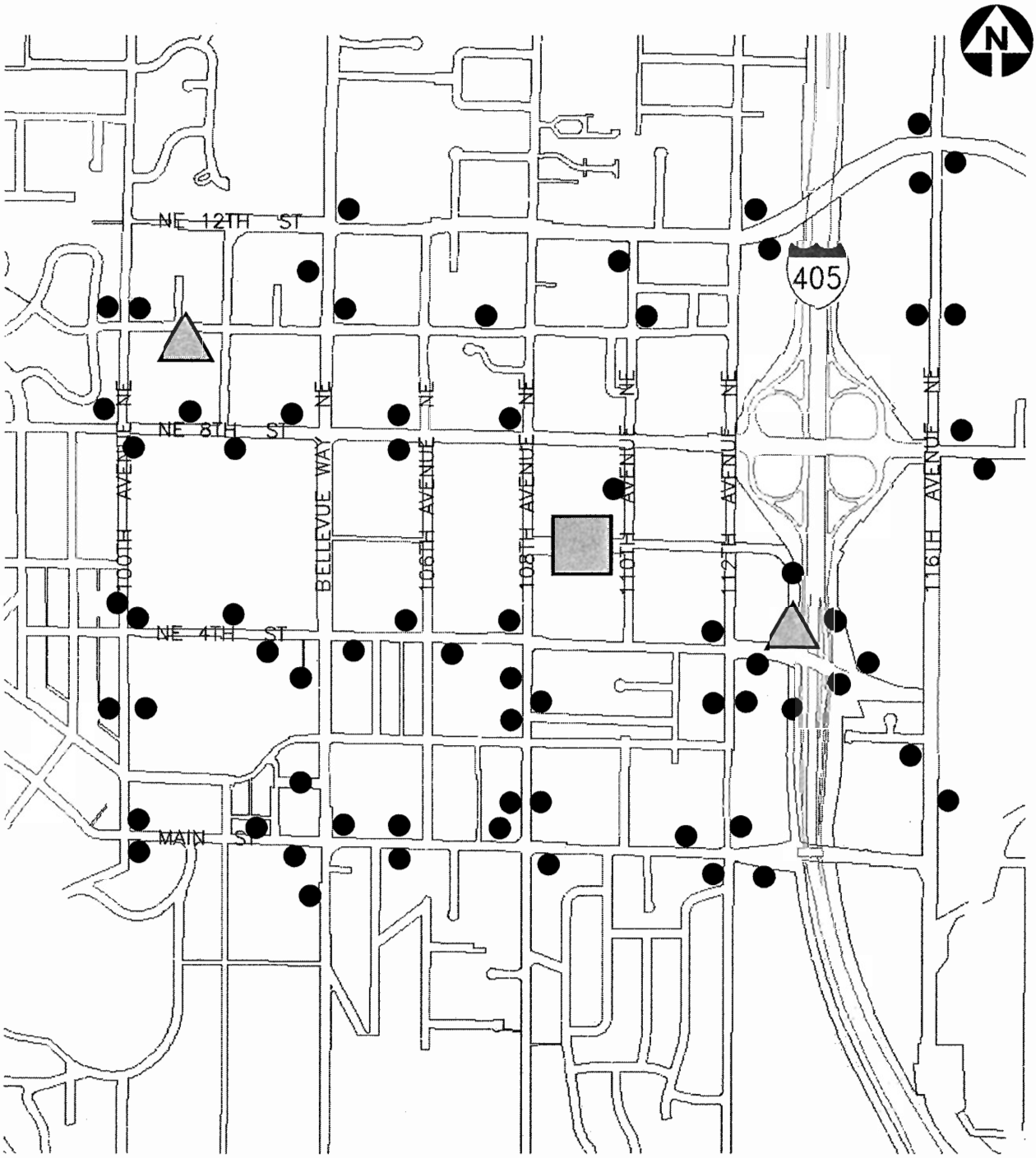
Current bus zones in downtown Bellevue are located along most major streets and avenues. However, there are several major exceptions to this coverage. These exceptions include:

- Bellevue Way between NE 10th and NE 4th Streets;
- 106th Avenue NE (see below under *Future Plans: Transit Facilities* regarding planned additional zones);
- 108th Avenue NE between NE 4th and NE 8th Streets and north of NE 8th Street (see below under *Future Plans: Transit Facilities* regarding planned additional zones);
- NE 10th Street between Bellevue Way and 110th Avenue NE;
- NE 12th Street between Bellevue Way and 110th Avenue NE;
- 2nd Avenue NE (entire length); and,
- NE 8th Street between 108th Avenue NE and 116th Avenue NE.

Depending on future land use development and resulting potential ridership demand, the above locations could be candidates for additional bus zones to support a downtown circulator.

Demand at Bus Zones

The BTC provides the major area for transit rider activity. As identified by King County Metro surveys taken in Fall 1999, the BTC accounted for approximately 8,400 daily on and offs. Other transit zones in downtown Bellevue currently have a range of boardings and activities. Figure 2 shows the current levels of transit rider on and offs at each of the downtown bus zones. The current major transit activity areas are along NE 8th Street between 100th Avenue NE and 106th Avenue NE and along Bellevue Way between NE 4th Street and Main Street.



The Transpo Group

Figure 1
Existing Transit Facilities

Downtown Bellevue Circulator

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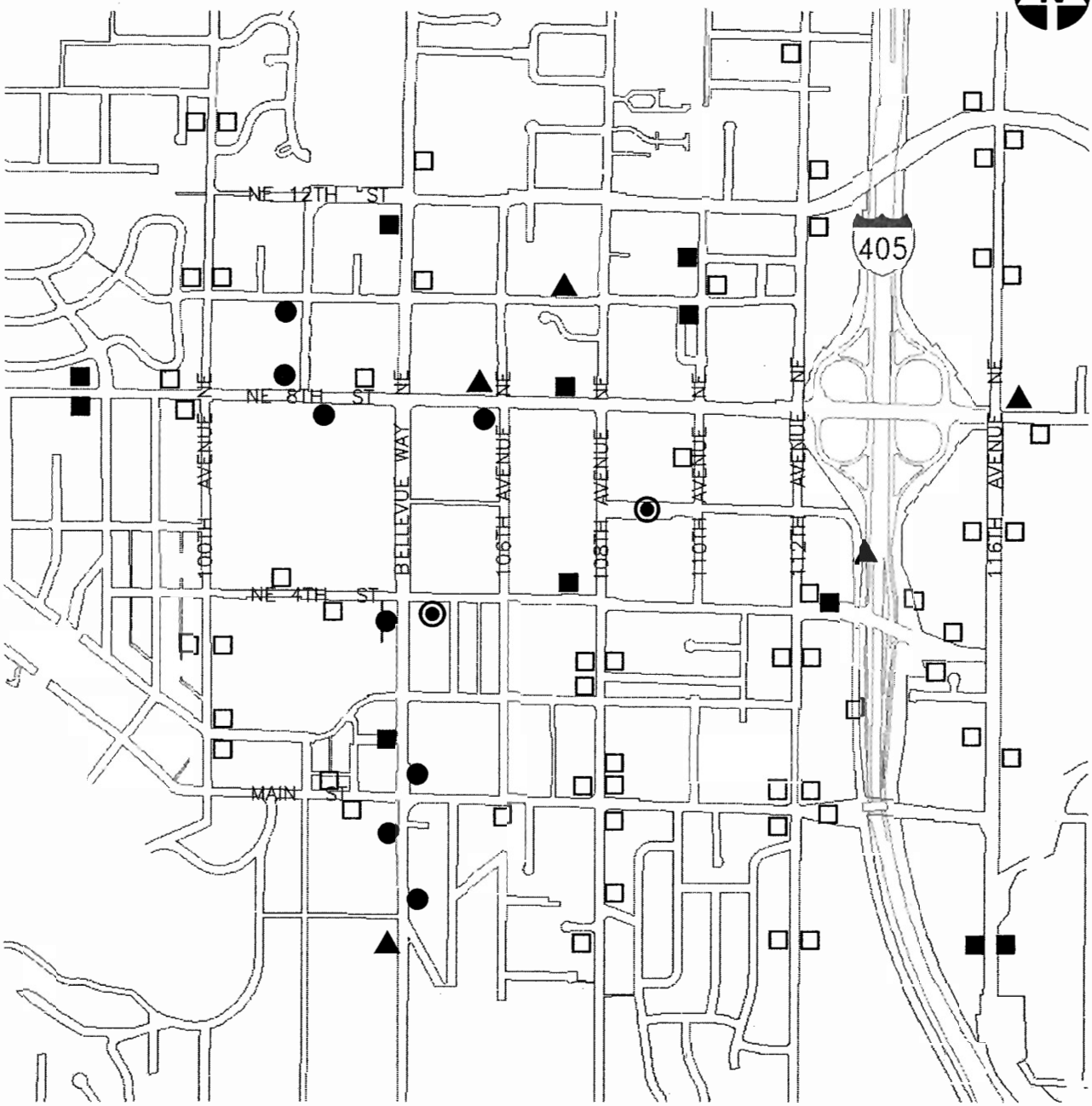

The Transpo Group

Figure 2
Existing Riderships (Ons/Offs) by Bus Zone

Downtown Bellevue Circulator

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Future Plans: Transit Facilities

In 1999, the City of Bellevue and Sound Transit completed an assessment of potential options relating to expansion of the BTC. The preferred alternative involves expansion of the current BTC east to 100th Avenue NE. However, another key component involves new bus zones and layover locations in downtown Bellevue to provide more dispersed service.

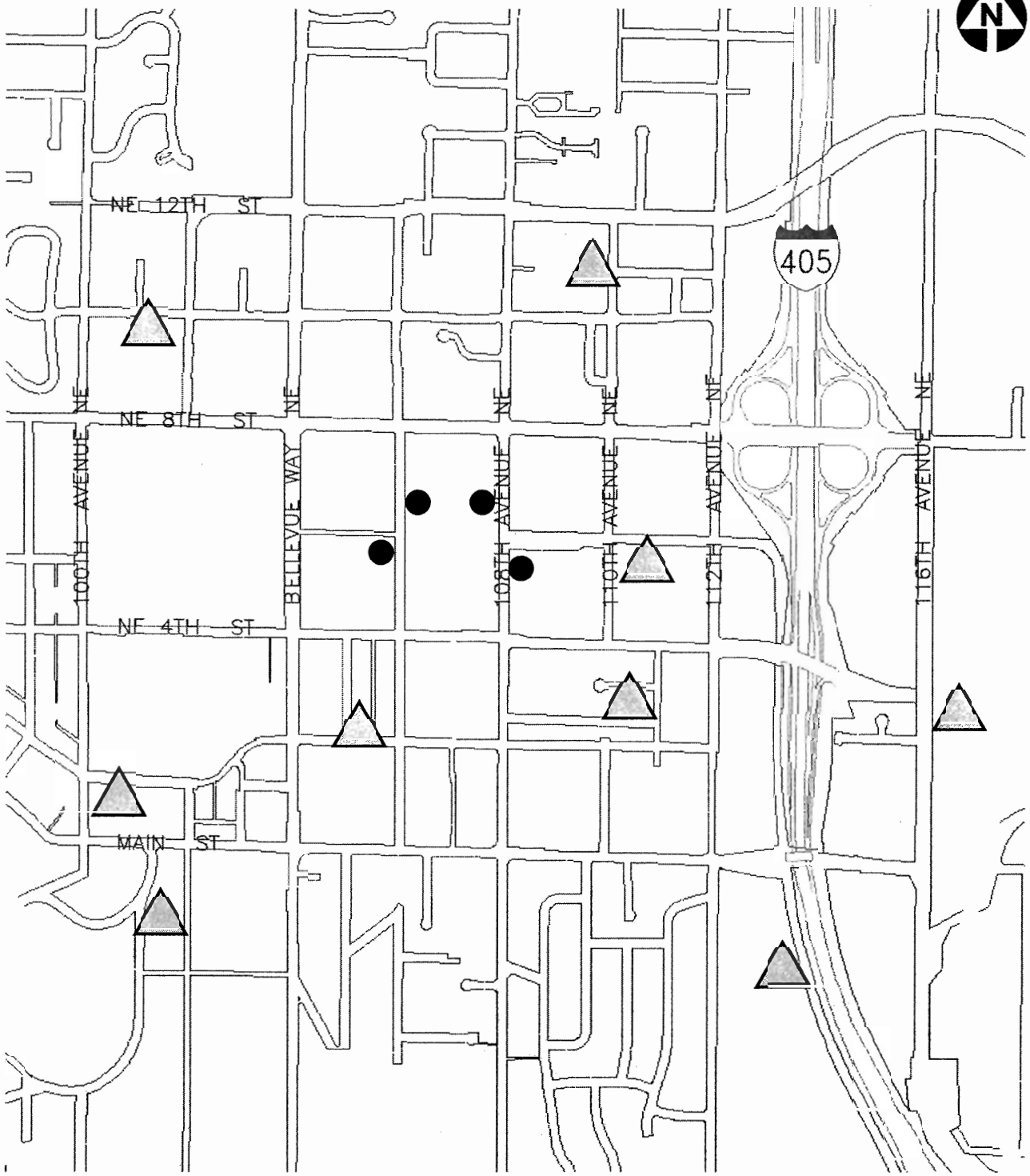
The additional bus zones will help meet some of the transit coverage gaps noted above under *Current Facilities*. Figure 3 identifies the location of planned new bus zones along 106th Avenue and 108th Avenue NE in the vicinity of the Pedestrian Corridor. It is particularly important for bus zones to be located on 106th Avenue NE given the current lack of bus zones along this street in the downtown area. This street is also centrally located given the close walking distances to a variety of major office, retail, and entertainment activities.

Figure 3 also shows proposed new layover locations for transit vehicles. The number of layover locations will increase from two (I-405 frontage road/NE 4th Street and NE 10th/100th Avenue NE) to nine. The additional layover locations provide operational enhancement to current service since they serve as staging areas for routes before they start regular service. This staging allows the service to have "recovery time" in the event that there are travel-related delays to the service. These layover locations can also provide flexibility for potential staging areas for a future downtown circulator.

Land Use Developments

While general growth trends will influence the market for a circulator, the locations and type of planned developments can provide even further direction. Several major developments, including those involving a mix of land use types, are proposed throughout the downtown area. Table 1 provides an overview of major planned developments as identified by the City of Bellevue's Transportation Department. Of particular importance are the expected new multi-family housing developments that are included in the list of developments. A total of 4,156 new multi-family housing units are proposed for development between 1999 and 2003.

The growth of office, housing, and other activities in downtown Bellevue will provide a potential market for a future downtown circulator. As shown in Figure 4, major new developments are dispersed throughout the downtown area. However, there is currently a lack of major transit coverage in the north-central area of downtown in the general vicinity of 108th Avenue NE and NE 12th Street. This area includes several major planned developments including a single development at NE 10th Street and 108th Avenue with 850 multi-family units.



The Transpo Group

Figure 3
Planned Future Transit Facilities

Downtown Bellevue Circulator

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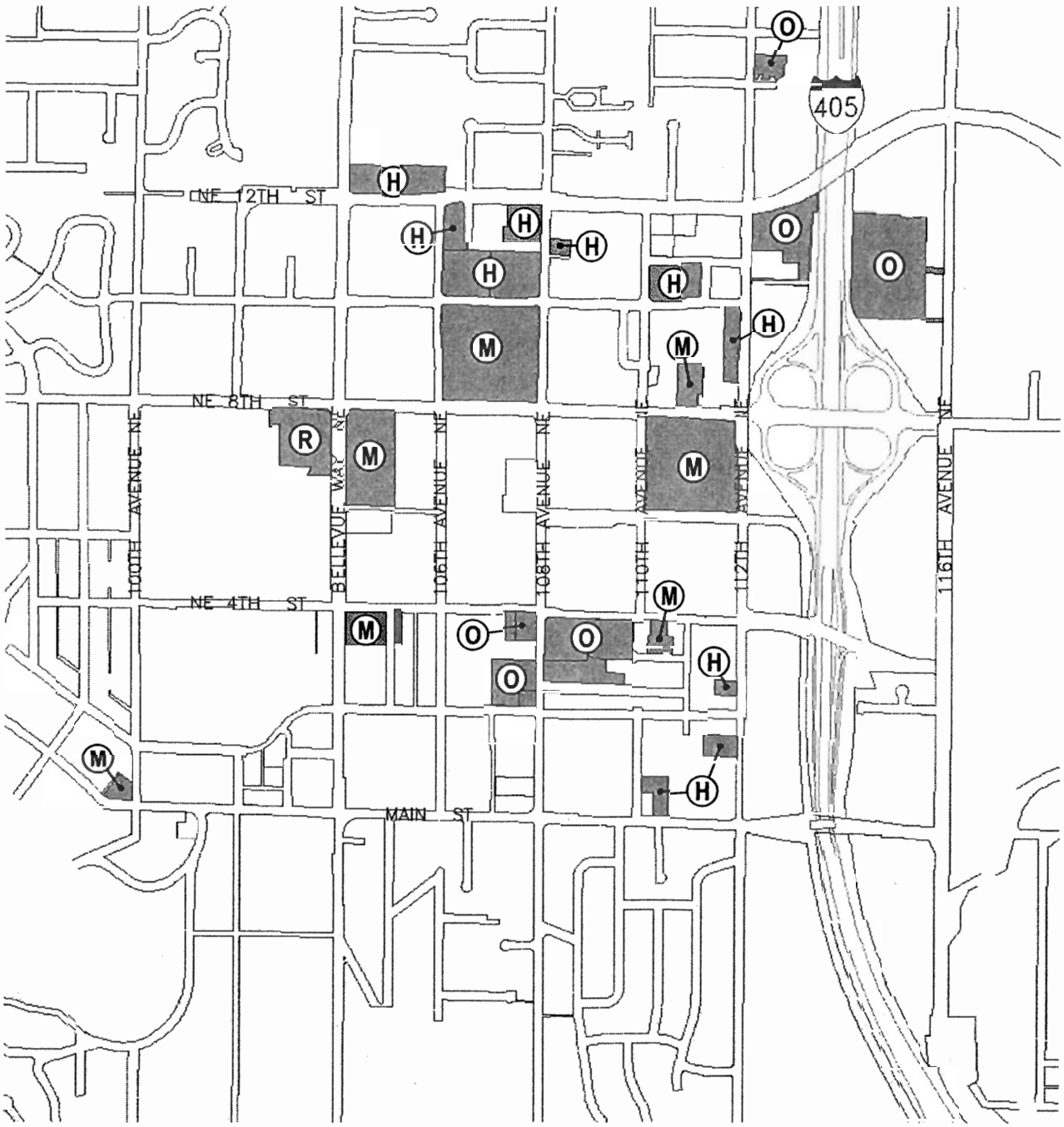

Figure 4
Planned Downtown Development (Through 2003)

Downtown Bellevue Circulator

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Table 1 - Major Planned Developments in Downtown Bellevue (through 2003)

Name	Location	Use	Expected Construction
Tantallon	Main St @ 100th Ave NE	Mixed Use (42,000 sf office + 8 mf residential)	2Q 2000 - 4Q 2000
Old Bellevue Apartments	NE 1st St @ 103rd Ave NE	70 MF units + 5,300 gsf retail	Under Construction
Lincoln Square	NE 8th St @ 104th Ave NE	1,200,000 gsf office/mixed use[1]	4Q 1999 - 2Q 2003
Ida Terrace	NE 12th St @ 104th Ave NE	Multi-family residential (39 units)	3Q 2000 - 2Q 2001
Civica Office Commons	NE 2nd St @ 108th Ave NE	320,000 sf office	4Q 1999 - 2Q 2001
Bellevue Tech Tower	NE 4th St @ 108th Ave NE	440,000 sf office	
E & H Superblock	NE 8th St @ 108th Ave NE	1,600,000 sf retail/office/residential[2]	2Q 2000 - 4Q 2002
Lakeview Commons	NE 8th St @ 108th Ave NE	450 room retirement center/6,200 sf retail	2Q 2000 - 4Q 2001
Madison Homes	NE 10th St @ 108th Ave NE	850 MF units	2Q 2002 - 2Q 2003
106th Place	NE 12th St @ 106th Place NE	Mixed Use (126 units)	Under Construction
Cornerstone	NE 12th St @ 108th Ave NE	Mixed Use (69 units)	2Q 2000 - 2Q 2001
Summit Ridge Office	NE 4th St @ 108th Ave NE	300,000 gsf office	2Q 2000 - 3Q 2001
Villa Firenze	NE 11th St @ 108th Ave NE	Mixed Use (24 units + 2,500 gsf retail)	2Q 2000 - 2Q 2001
Park on Main	Main St @ 110th Ave NE	Multi family residential (131 units)	2Q 2000 - 3Q 2001
Wilburton View Apartments	NE 2nd St @ 112th Ave NE	221 MF units	2Q 2000 - 4Q 2000
211 at 112th Building	NE 2nd St @ 112th Ave NE	56 MF units	2Q 2000 - 4Q 2000
Sandstone Court	NE 4th St @ 112th Ave NE	78 MF units + 9,000 gsf retail	4Q 1999 - 4Q 2000
Meydenbauer Expansion	NE 6th St @ 110th Ave NE	1,300,000 gsf convention center/hotel/etc.	2Q 2001 - 2Q 2003
111th St Hotel	NE 8th St @ 110th Ave NE	Mixed Use (208 rooms/64 condos/retail)	2Q 2000 - 3Q 2001
Belagio Residential Complex	NE 10th St @ 112th Ave NE	Mixed Use (220 apartments/1,500 gsf retail)	2Q 2000 - 3Q 2001
Avalon	NE 10th St @ 110th Ave NE	Multi family residential (200 units)	3Q 1999 - 3Q 2000
Hines Office	NE 12th St @ 112th Ave NE	482,000 gsf office	Under Construction
Johnson Office Building	NE 14th St @ 112 Ave NE	48,580 gsf office	4Q 1999 - 3Q 2000
Overlake Hospital Medical Center	NE 12th St @ 116th Ave NE	525,000 gsf medical office building	3Q 1999 - 3Q 2000
Safeway Mixed Use	NE 4th St @ Bellevue Way	Retail + 350 multi-family units	

1. 143 apartments, 408 room hotel, 531,000 gross sq. feet of office, 180screen cinema, 94,000 gsf health club, 261,000 gsf of retail

2. Up to 582 dwelling units, 350 room hotel, 890,000 square feet of office, 220,000 gsf of office, 20,000 gsf restaurant, 16 screen cinema.

Downtown Parking Demand and Supply

One of the major factors that can determine transit demand is the availability and cost of parking. A recent study completed by the Puget Sound Regional Council (PSRC) of downtown Seattle and Bellevue indicates recent trends that could encourage greater use of transit in general and a downtown circulator in particular.

The PSRC study (*Parking Inventory for Seattle and Bellevue: 1999*; May 2000) indicated several key trends relating to both demand and capacity of parking in downtown Bellevue (an area bounded by 100th Avenue NE, NE 12th Street, 116th Avenue, and Main Street). One of the key findings of the study is that overall supply of parking in downtown Bellevue was virtually the same in 1999 as it was in 1989. However, major new office and retail developments have occurred in downtown during this period. In addition, the availability of surface parking supply for commuters has been reduced as a result of their displacement for new developments. This capacity has been replaced by more expensive parking spaces within office buildings.

The loss in surface parking and the lack of any significant increase in overall supply has resulted in a major increase in parking costs. Between 1989 and 1999 the weighted average cost of monthly parking in downtown Bellevue has virtually doubled – from $54.28 to $105.51. Daily costs also increased significantly during this 10-year period – from $6.01 to $11.21. These trends toward higher parking costs in downtown Bellevue will likely continue since planned new developments will consume available, and relatively inexpensive, surface parking capacity.

The recent and likely continued cost increases for parking in downtown Bellevue can have a significant impact on potential transit ridership particularly as regional service provided by Sound Transit continues to grow. As auto costs rise and regional transit improves, the market for a downtown circulator will also be emerging.

3. TRANSIT CIRCULATOR CASE STUDIES

Several case studies of existing transit circulators were carried out as part of the downtown circulator study. While the circulators addressed in these case studies involved a variety markets, each served a downtown area, and each met with success in terms of attracting riders. A common framework was used for each of the case studies and included key information items such as reasons for implementation, goals and expectations, and public input and feedback. The case studies were carried out for:

- Boulder, Colorado (*Hop* service)
- Kent, WA (*Shopper Shuttle*)
- Renton, WA (*RUSH*)
- Spokane, WA (*Plaza/Arena Circulator*)
- Orlando, FL (*Lymmo*)

Table 2 provides an overview of the case study results. The following further describes the studies for the five services. It should be noted that the descriptions reflect recent conditions effective in Spring 2000.

Boulder, Colorado (*Hop* Circulator Shuttle Service)

Since the early 1990s, the *Hop* has provided local transit service within downtown Boulder. The route accesses major local generators, the downtown transit mall, and regional routes to downtown Denver. The Hop is complemented by the *Skip*, which connects Boulder with the nearby community of Lafayette. The Skip was planned and financially supported by the two cities.

Reasons for Implementation

The Hop circulator service is part of an overall Transit Plan developed by City in the early 1990's. City staff led planning and design efforts with major input provided through a *design review committee* consisting of Boulder residents. The basic approach to new transit services was to provide funding for a two-year demonstration period. Funding for the demonstration phase has been through federal ISTEA/TEA 21 sources. The Regional Transit District (RTD) for the Denver area will takeover funding for the service in January 2001 since stated goals have been achieved (see further discussion of goals below under *Goals and Expectations*).

Key Features

Using eight 30-foot buses, Boulder's Hop service operates every 10 minutes Monday through Saturday. Service is available during a 12-hour span during weekdays with slightly less availability on weekends. The routing involves a two-way loop serving the University of Colorado at the south end and downtown Boulder at the north end. The alignment at the north end is along the Pearl Street transit/pedestrian mall. Annual ridership for the Hop is estimated at approximately 1.1 million per year.

Table 2: Overview of Downtown Circulator Case Studies

Service	*Reasons for Implementation*	*Key Features*[1]	*Goals and Expectations*	*Partnerships*	*Public Involvement and Feedback*
Boulder, Colorado (Hop Circulator Shuttle Service)	Part of a Transit Plan developed by City in early 1990s to improve local mobility.	Operates every 10 minutes Monday through Saturday; 12-hour service span during weekdays.	Ridership goal of 500 per day; achieved within the first two months of service.	Joint local funding with Denver RTD.	Major planning effort by community. Design Committee had ten sessions to review potential options, vehicles, etc.
Kent Shopper Shuttle	Strong interest by residents in improving local transit service for seniors living in Kent.	Weekday service between 9:00 AM and 4:00 PM; fixed route in downtown and demand-response in East Hill.	Target of 10 passengers per hour. During two-year demonstration period, achieved 14 to 15 passengers per hour.	Joint planning efforts between the City and Metro. City provided financial support so service can be fare-free.	Advisory Committee on Transit directed initial planning efforts; Metro conducted on-board survey to obtain feedback from riders.
Renton RUSH	Concern by City of Renton and local businesses about access within downtown and to nearby major employers and regional transit service.	15-minute service during peak periods only.	Target of 325 riders per day; achieved within six months after service started.	Renton contributes 16 percent of total operating costs – most of City support involves "buying" higher levels of service than Metro would normally provide.	Inter-modal Program Design Team provided guidance for the RUSH service design. Public feedback through on-board survey.
Spokane Plaza/Arena Circulator	Part of overall redevelopment of downtown Spokane including major new transit center – STA Plaza .	Operates Monday through Saturday every 20 minutes; weekday service span: 6:15 a.m. to 7:15 p.m.; Saturdays: 7:35 a.m. to 6:30 p.m.	22 passengers per hour (per STA guidelines); achieved in part due to short route alignment.	Joint planning with downtown merchants.	Major stakeholder involvement in planning of service; conducted on-board surveys.
Orlando, Florida Lymmo	To meet mobility needs of workers; also provides access to sports arena / performing arts complex.	Available 365 days per year; five-minute service weekdays; exclusive lane with signal priority; real-time service information.	Goal of 100,000 passengers per month within the first year; achieved in first eight months.	Operating costs paid by parking fees and funds from the Community Redevelopment Authority.	Downtown merchants involved in planning and ongoing monitoring.

1. Effective Spring 2000.

Fares were initially set at 25 cents but increased to the same levels as the regional bus system (60 cents). This increase had no effect on ridership. For many Boulder residents the fare has little impact since passes are honored and many residents already have some form of transit pass. City of Boulder staff estimates that about 60 percent of riders use some kind of pass.

City of Boulder staff feels that the *type* of vehicle was a major contributor to the success of Hop service. For example, the design committee for the service wanted clear windows versus tinted ones seen on many transit systems. Members of the Design Committee also preferred cushioned seats versus plastic and extra wide doors to accommodate riders with shopping bags. The graphics used for the exterior provides the service with a strong identity.

Goals and Expectations

The City of Boulder established a ridership goal of 500 per day. This goal was achieved within the first two months of service implementation. With gradual service expansion, the Hop currently accommodates 5,000 to 6,000 boardings per day. Per City of Boulder staff, additional ridership is limited by capacity,

Another goal of the service was strong community ownership in the service. This sense of ownership was evident in the first year of service when service disruptions occurred relating to equipment breakdowns. There was little negative reaction to these disruptions since the community had a strong sense of ownership that translated into support.

Public Involvement and Feedback

A major planning effort at the local level took place since Boulder residents and City staff placed greater emphasis on *locally* oriented transit service versus the regional perspective of the RTD. For example, the Design Committee, which steered the service planning, had 10 sessions to review potential options, vehicles, etc. Once the Hop service was implemented, feedback from the community was obtained through a series of focus groups. Based on the input received from the community no major changes have been made regarding the basic features of the service.

Kent Shopper Shuttle (Metro Routes 914 and 916)

Since the early 1990s, local circulator service has been operating in the downtown Kent area. The service has evolved from a shuttle operating only during the Christmas season to a year-round demonstration program. The current fare-free Shopper Shuttle service is now a regular part of King County Metro's service and is supported jointly by King County and the City of Kent.

Reasons for Implementation

In the early 1990s, there was strong interest by residents in improving local transit service for seniors living in Kent. The city has major concentrations of senior and low-income housing developments that were remote from those areas with good transit service. During

1996-1998, a federal Congestion Management/Air Quality (CMAQ) grant provided funding for the demonstration project. Metro participated in obtaining grant with both Metro and Kent contributing to the local match.

Key Features

The Kent Shopper Shuttle operates during weekdays between 9 a.m. and 4 p.m. Two routes, 914 and 916, serve downtown Kent with fixed route/fixed schedule service. These routes also serve the East Hill area of Kent through Dial-a-Ride Transit (DART) service. In the East Hill area, service operates every hour while in downtown Kent the routes are consolidated to provide 30-minute service. The routes serve major shopping areas and services in the downtown area as well as the Kent transit center.

The Shuttle service operates with Metro "cutaway" vans that can carry up to 18 seated passengers. Some of the bus zones used by the Shoppers Shuttle are shared with other Metro routes. Other zones are used only by the Shuttle, with the City of Kent providing support for their maintenance. The vehicle and bus zones have a colorful and consistent theme using a frog character.

Shopper Shuttle service is provided without charge to riders. The City of Kent makes up for "lost" revenues with approximately $21,000 per year paid to King County. This compares with a total cost of approximately $300,000 for the Shuttle. The compensation for lost revenues is relatively small since ridership is made up primarily of seniors who would pay a relatively low fare for transit services. Monthly ridership averages about 8,000 in 1999, a major increase over the 4,500 riders per month in 1997.

Goals and Expectations

The City of Kent and King County established a target of 10 passengers per hour. During the two-year demonstration period, the Shuttle achieved 14 to 15 passengers per hour. Per King County Metro staff a possible added benefit of the Shuttle service is that it may be providing relief for Access service to persons with disabilities.

With productivity levels exceeding goals, Metro took over the service following completion of the demonstration program. The takeover by Metro was particularly feasible since it coincided with the agency's implementation of Six-Year Plan elements for South King County.

Public Involvement and Feedback

The Mayor's Advisory Committee on Transit helped direct initial planning efforts for the Shopper Shuttle. Members of the committee as well as other residents helped plan the service and promote it to the community, particularly senior residents of Kent.

During the two-year demonstration period, King County Metro conducted an on-board survey to obtain feedback from riders. The surveys allowed an opportunity for riders to express any concerns regarding the Shuttle service. No major changes in the Shuttle were identified through the community survey.

Partnerships

The Kent Shopper Shuttle was a culmination of joint planning efforts between the City of Kent and King County Metro. For any local transit service contracted with a private provider, permission has to be granted by King County. This permission was provided since the service did not compete or overlap service with current Metro routes.

The City of Kent continues to participate in the Shuttle service through financial support that allows the service to be provided fare-free. The City also supports maintenance of those bus zones that are used exclusively by Shuttle vehicles.

Renton Urban Shuttle ("RUSH"; Metro Route 110)

The Renton RUSH service began operating as a demonstration program in 1996. While the Kent service focused on improving mobility for seniors the RUSH service is intended to meet the needs of several markets, including workers, shoppers, residents, and students.

Major Reasons for Service

In the early 1990s, there was concern by the City of Renton and local businesses about access within downtown and to nearby major employers and to facilities served by regional transit. Through its Comprehensive Plan process, the City of Renton was also placing greater emphasis on transit service to address future mobility needs.

Key Features

Until February 2000, RUSH service operated Monday through Friday between 5:30 a.m. and 6:30 p.m. Service was provided every 15 minutes. Due to funding shortfalls relating to I-695, King County Metro cutback service to peak periods only. With the cutbacks, basic service coverage was maintained and includes the downtown transit center, the Boeing Renton plant, PACCAR, and several retail locations. Service may return to previous levels if additional funding is obtained for Metro services.

Metro uses 30-foot buses for the RUSH service. There is no special artwork on the vehicles or at bus zones along the route. Metro did not want special signs on buses that would cover advertisements; however, the RUSH buses have a sign indicating free service in the downtown area. The restrictions on special markings for the buses relate in part to the RUSH vehicles being mixed other Metro buses. As buses are assigned to individual routes, any specially designed vehicles may not be allocated to the RUSH service.

While the RUSH service serves multiple markets, the results of on-board survey of riders indicates that a large majority (79 percent) use it to get work and school. These results were obtained when the service operated during both peak and midday periods.

Goals and Expectations

The City of Renton established a goal for the RUSH service of 325 riders per day. It also needed to meet the 10-passengers-per-hour productivity threshold of King County Metro. The daily ridership target was achieved within six months after service started. Before the February 2000 cutbacks, the service was achieving 450 per day before cutback and a productivity level of 14 passenger per hour.

Partnerships

The initial funding of the RUSH service was through a federal CMAQ grant with local support provided jointly by King County Metro and Renton. For current operations, Renton contributes 16 percent of total operating costs. Of this portion, 15 percent involves "buying" higher levels of service than Metro would normally provide. The City wanted 15-minute headways all day versus Metro's proposal for 15-minute service in peaks and 30-minutes during non-peaks. The remaining one percent is to make up for lost revenue due to fare free service. Before the February 2000 service, cutbacks annual costs for the RUSH were $500,000, of which $94,000 was provided by the City of Renton.

Public Involvement and Feedback

The initial concepts for a downtown circulator service were developed through an Inter-modal Program Design Team made up of City of Renton and King County Metro representatives. A Sounding Board of community representatives was established to help guide implementation of service changes identified by King County Metro's Six-Year Transit Development. This group also provided guidance for the RUSH service design.

As is the case with the Kent Shopper Shuttle, public feedback was obtained through an on-board survey that took place in January 1998. The survey results indicated that current riders identified no major changes in the service. The results also indicated high levels of rider satisfaction with the service, with 84 percent stating that they were highly satisfied. The results also provided direction regarding possible changes to service features. A majority of riders indicated that they would not use the service if a 25-cent fare were charged. In addition, a majority of current riders indicated that they would stop using the RUSH service if service was changed from 15 minutes to 30 minutes.

Spokane Plaza/Arena Circulator (Route 1)

The Transit Authority (STA) has operated the Spokane Plaza/Arena Circulator Spokane since 1992. The service was implemented as part of a larger effort to enhance transit services and facilities in downtown Spokane.

Background

The shuttle service resulted from a major effort by the local community and STA in conjunction with the City of Spokane, Central Business District groups, and private developers along the corridor. Part of overall redevelopment efforts of downtown Spokane included a major new central passenger facility/transit center (STA Plaza). The shuttle system

connects downtown with remote parking at a sports arena, the Courthouse District, offices, and hotels north of downtown.

Key Features

The shuttle operates Monday through Saturday every 20 minutes, with peak service offered every 10 minutes. Weekday service hours are from 6:15 a.m. to 7:15 p.m. A shorter service day is provided on Saturdays from 7:35 a.m. to 6:30 p.m. After trolley service ends in the evening, regular fixed route service provides access to the parking lots until approximately 12:30 a.m. During holiday seasons, extended service hours are provided, including Sundays. Special events in the core area have used the service for remote parking. Furthermore, some department stores have "purchased" the service to enable free rides to coincide with special sale events.

Fares for the service are 25 cents for a cash fare, with a monthly pass available for $19. The monthly pass also covers the cost of parking Monday through Friday. A merchant validation program is used for fare or parking reimbursement with a specified purchase level. Transfers from other modes are accepted.

Special signage has been provided at shuttle stops; this includes an historic theme consistent with the "trolley" look of the vehicles and driver uniforms. A dedicated transit lane on Wall Street between the STA Plaza and Riverfront Park is located on a portion of the shuttle's route. This transit street also incorporates street furniture and extension of space by local eating establishments

Goals and Expectation

A productivity goal of 22 passengers per hour was established per STA guidelines for local fixed route service. This goal was achieved in part due to short route alignment of the shuttle.

Partnerships

Downtown stakeholders met to review concepts and make recommendations. Physical improvements along a pedestrian corridor were financed by a combination of Federal and local funding, along with private sector investments.

Public Involvement and Feedback

Route planning for the shuttle was reviewed with major downtown stakeholders prior to implementation. Public hearings were held, as well as public informational meetings to receive input. On-board surveys were conducted following implementation, resulting in changes in vehicle features; wood seats were fitted with cushions and seat heights were lowered. Public input also resulted in minor changes in routing and scheduling.

Major Lessons Learned

- Community involvement is essential from the beginning. A core group of advisors (support messengers) are crucial to community acceptance. Make it their circulator from day one.
- Invite community leaders to be part of the ongoing "management group." The group should function like the private sector. They are important to be a part of this process.
- Let the community have an opportunity to review and vote for alternatives.
- A "theme" is easier to promote and may play into other downtown joint advertising possibilities.
- The cuter the vehicle, the higher the maintenance costs.
- Free fare is always attractive and encourages more riders. Sponsorship is required by someone.
- Have adjacent businesses adopt the transit stop. Include community artwork at stop locations. Make it part of the downtown identity.
- If the service runs frequently enough, shelters are not needed. The shelters contribute to a higher maintenance cost.
- Streetscape improvements are ABSOLUTELY ESSENTIAL. The stops need to be easily identified and close enough for perceived good access (1.5 to 2.0 blocks).

Orlando Lymmo

The Lynx transit system of Orlando has been operating in downtown Orlando since 1997. The fare-free service has several features that are not traditionally part of downtown circulator services or even regular transit routes. These features include dedicated lanes, bus-activated signal priority systems, and real-time information that tracks bus movements for riders.

Major Reasons for Implementation

The major impetus for the Lymmo service was to meet mobility needs of workers in downtown Orlando. The service also provides access to the Centroplex area, which consists of a sports arena and performing arts complex.

Key Features

Lymmo service is provided 365 days per year. On weekdays, service operates every 5 minutes during peak and midday periods. The Lymmo operates every 10 minutes during weekday evening's service and every 15 minutes on Sundays and holidays. Between Monday and Thursday, buses operate between 6 a.m. and 10 p.m. while on Fridays and Saturdays the service is extended to 12 a.m.

Lymmo service, using 35-foot vehicles powered by natural compressed gas, operates within downtown Orlando in a dedicated lane. Bus-activated signal priority provides higher speeds and improved service reliability for Lymmo operations. At Lymmo stops, kiosks inform riders of the real-time location of each Lymmo bus. The Lynx system is in the process of

installing three video screens on each bus to provide local forecasting of weather, stocks, and news.

Goals and Expectations

Staff at Lynx had established a goal of 100,000 passengers per month within the first year of operations. Eight months after implementation the Lymmo carried approximately 102,000 passengers.

Partnerships

The annual operating costs for the Lymmo are approximately $1.3 million. Parking fees and funds from the Community Redevelopment Authority pays these costs. The City of Orlando's Downtown Development Board took the lead in the overall project planning and the coordination of public outreach. The Centroplex entertainment area also assists with funding for operations. Private sector sources support the artwork, which is painted on each Lymmo bus.

4. COORDINATION EFFORTS AFFECTING DOWNTOWN CIRCULATOR

The market assessment and service design for a potential downtown circulator will need to recognize related efforts that are being carried out by Bellevue and other agencies/organizations. Of particular importance is identifying opportunities for the transit circulator and other transit-related initiatives to be *mutually* supportive.

I-405/Downtown Access Project (*Access Downtown*)

Access Downtown includes several projects that will improve overall access between Interstate 405 and the downtown Bellevue. The projects will also improve internal traffic circulation within the downtown area. For public transportation, the construction of a direct access ramp between NE 6th Street and I-405 will provide a major enhancement to travel time and service reliability for Metro and Sound Transit routes. This enhancement in regional access will complement any local transit improvements such as a downtown circular.

Other aspects of Access Downtown could potentially relate to a potential downtown circulator. These include various road improvements in downtown Bellevue, temporary impacts to mobility as a result of construction, and potential need for shuttle service for construction workers. These items are further discussed below:

Street Improvements

Access Downtown includes several street improvements in downtown Bellevue as well as the area directly east of I-405. The improvements are:

- Widening 116th Avenue NE;
- Widening of 112th Avenue NE;
- Building a new link on 110th Avenue NE to connect NW 2nd Street and NE 4th Street;
- Building a new link on NE 2nd Street between 112th Avenue NE and 114th Avenue NE; and
- New sidewalks at several locations.

These improvements will help direct potential route alignments for a downtown circulator in the downtown area. The initial phase of the circulator service may follow a different alignment but as street improvements are gradually built, consideration can be given to route changes that take advantage of new links, street widening, sidewalks installation, and other improvements.

Construction Impacts

Various projects included in Access Downtown will occur over a five-year time period. During this period, potential travel delays can be mitigated through demand management efforts that the City of Bellevue will develop. A potential component of the program is the downtown circulator. Availability of the circulator can help provide local mobility for those who prefer to access downtown via public transit and other alternatives to driving alone.

The potential demand for the circulator service during the Access Downtown project may require a higher level of service than what may normally be expected. This higher level of service could take the form of larger vehicles, more frequent operations, more extensive service coverage, and a wider span of service.

Construction Workers Shuttle

Access Downtown will require substantial numbers of construction workers that will be assigned to various sites in the downtown area. Parking for at least some of these sites will be limited to the point that some form of shuttle service may be warranted.

If the downtown circulator is used for shuttling construction workers, consideration may be given to varying service features from what normally be provided. For example, the arrival/departure schedules for a construction workers may warrant service operating in peak periods only. In addition, the potentially high concentration of demand during peak periods may warrant a larger bus than what is normally considered for circulator services.

Dispersed Transit Service

As noted above under the *Market Assessment* section of the memorandum, the evaluation of potential alternatives for expanding the BTC called for more dispersed service. New bus zones in downtown were called out for 108th Avenue NE in the vicinity of the BTC and along 106th Avenue NE to provide more dispersed service.

As potential service options are being considered for a downtown circulator, additional bus zones may be identified. For example, planned commercial and residential developments have been identified along 106th Avenue NE. While the Dispersed System calls out two zones along 106th Avenue at NE 6th Street, additional ones may be warranted to support potential routing of a downtown circulator.

Metro and Sound Transit Development Plans

King County Metro's Six-Year Transit Development Plan identifies service changes and facility developments during the 1996-2001 time period. Most of the recommendations called out in the Six-Year Plan, including those affecting Bellevue, have been implemented. While an update to the Plan has been initiated, any planning affecting Metro services will be dependent on the status of additional funding. With the passage of Initiative 695, King County Metro's operating funds were reduced by about one-third.

Interim funding from the State of Washington has allowed King County to maintain a large majority of its service at pre-I-695 levels. As options for a downtown circulator are being considered, impacts of potential service changes in the downtown Bellevue area will need to be considered. One potential service item is the use of circulator service to help meet service gaps involving Metro's community services.

Sound Transit's *Regional Express* service in Bellevue will continue to expand in 2001. A new route (560) will connect the City of Bellevue (BTC and South Bellevue park-and-ride lot) with SeaTac airport via Renton. The new Route 560 along with current service to Seattle (550), Renton/Federal Way (565), and Snohomish County (530, 531, 532, and 535), will

enhance overall regional transit access to downtown Bellevue. Recognizing this enhancement and resulting additional riders in the downtown area will be an important factor for the circulator design.

Buslorry Feasibility Study

The Buslorry Feasibility Study is part of Sound Transit's *Research and Technology* effort to examine innovative approaches to improving regional mobility. The study, administered by the City of Bellevue, will examine the feasibility of using regional transit services to transport packages. This use of transit vehicles would take advantage current and proposed high occupancy vehicle lanes in Central Puget Sound.

A future downtown circulator could complement a regional buslorry system by providing local access to the buslorries. However, the vehicle technology for the circulator will need to include sufficient space for packages. In addition, to support the regional buslorry, the circulator vehicles should have priority treatment comparable to the regional buses. This priority treatment could be possible (see above *Case Studies* under the Orlando Lymmo); however, this potential feature of the circulator may have to wait for an initial service period to determine public response to the basic service.

5. DIRECTION FOR POTENTIAL CIRCULAR CONCEPTS

The Downtown Bellevue Circulator Study includes identification of potential transit circulator concepts. Along with the results of the market survey, these concepts will serve as a basis for more specific service design features of the circulator. The results of the Market Assessment, Case Studies, and Coordination Efforts tasks provide direction for the identification of potential concepts. This section further identifies the direction for the concepts based on key findings the task completed to date. Under each of the three tasks, recommended guidance for a potential circular is identified.

Market Assessment

The results of the market assessment indicated several key findings that can provide direction for potential concepts involving the downtown circulator.

Internal Travel Demand

The expected growth in employment, residential, retail, and entertainment activities within downtown Bellevue will result in an emerging market for local transit access. Substantial growth levels, particularly for residential units, are expected to take place within the next three years.

> *Guidance for circulator*: Service will likely have to be provided during peak, midday, and evening periods as well as on weekends. These service levels will likely be necessary in order to meet current and emerging market needs involving internal downtown travel.

Location of Current and Emerging Markets

The review of emerging major developments indicates potential markets for a circulator throughout downtown Bellevue. However, several major planned developments are located along corridors such as 106th Avenue NE and areas such as north-central downtown that are without transit coverage.

> *Guidance for circulator*: Potential routings for the circulator will need to recognize current gaps in service coverage. A downtown circulator can provide an opportunity to serve downtown areas that are currently without adequate service coverage while at the same time supporting existing local and regional services.

Regional Access to Downtown Bellevue

Major increases in employment levels within downtown Bellevue coupled with expected continuance of parking costs will likely result in greater demands on regional transit access to downtown Bellevue. Actual ridership increases will likely occur due to planned new Sound Transit Regional Express routes along with gradual increases in service levels for current regional services. While The Regional Express services will help achieve increased transit

demand to Bellevue, there will still be a need for local access from the BTC to various locations throughout Bellevue.

Guidance for circulator: The service frequencies for a downtown circulator may have to be greater in peak periods to meet internal commute demand as well as the local access needs of regional commuters.

Downtown Circulator Case Studies

The five case studies of existing downtown circulators provide insights as to what may have contributed to the respective success of each system. The following identifies major common elements for each system that can help guide the identification of potential concepts for the downtown Bellevue circulator.

Strong Identity

Each of the systems covered by the case studies included a strong identity that distinguished it from other transit services. This identity can be as simple as the different color scheme for the Kent Shopper Special. This identify can also extend to special signing at bus zones such as that undertaken for the Spokane system.

Guidance for circulator: The circulator should include features that result in it standing out from other transit services operating in Bellevue. These features should include the type of vehicle, color scheme, interior features, etc. They can also include characteristics of the bus stops such as signage and design of shelters at major boarding areas.

Passenger Fares

Most of the services covered by the case studies are either fare-free or charge low fares. In the case of the Kent and Renton circulators, the loss in fare revenues is made up through contributions from the cities. The loss in fare-related revenues for several systems was relatively low since most of the users already have a pass and would not be adding any net additional revenues to the system.

Guidance for circulator: Fare options can have a potentially significant effect on potential ridership. As part of the community survey that will help assess concepts, fare-related options should be called out to help determine public response.

Coordination Efforts

Coordination efforts regarding the downtown circulator primarily involve potential mitigation efforts relating to Access Downtown and the identified street and sidewalk improvements that will take place as part of Access Downtown.

Mitigation Efforts

Potential travel delays associated with the Access Downtown projects can provide incentives for greater use of public transit including a local circulator. In addition, the potential need for shuttle service for construction workers can also influence the features of the downtown circulator in terms of frequencies, service coverage, and span of service.

> *Guidance for circulator:* The potential concepts for the circulator service may include higher service levels and additional routings as compared to a more basic service design. This augmented service may be necessary to address demand management efforts and construction worker shuttle demands on local transit access.

Street Improvements

The construction of the HOV direct access ramp at NE 6th Street will provide a major improvement for regional transit services. However, the street improvements within downtown Bellevue can complement potential routings of local transit service including the downtown circulator.

> *Guidance for circulator:* Potential concepts for the circulator service will need to recognize planned street and sidewalk improvements in downtown Bellevue. During the circulator's initial phase, these improvements may not yet be in place. However, as the street/sidewalk improvements are constructed, future routings can potentially take advantage of new street links and those features that will benefit pedestrian access to circulator stops.

6. POTENTIAL SERVICE CHARACTERISITCS

Section 3 of this report presented several case studies involving circulator services operating in Washington State as well as Colorado and Florida. These circulators involved a variety of characteristics dealing with such items as service frequency, span of service, and types of fare structures. The case study results can provide a basis for alternative service features that can be considered for the downtown Bellevue circulator.

Reflecting what was learned through the case studies, a potentially wide range of service features could be considered for a downtown circulator. The circulator, however, should meet market needs unique to downtown Bellevue as described under Section 2 of this report. Therefore, service characteristics for the circulator include possible routings to meet current and future demand.

Several key service characteristics can be considered for the downtown circulator. These include:

- Service structure and major destinations that the route should access.
- How often the service should operate including variations by time of day can be a key factor in attracting riders, particularly those who can choose between transit and driving.
- Fares charged for the service can also determine ridership since even the need to have the right change could act as a possible deterrent against using the service.

Table 3 provides an overview of the potential service characteristics. The description uses results of the circulator study dealing with items relating to market assessment, coordination with downtown construction and planning activities, and findings from five case studies carried out for the downtown circulator study.

Service Coverage

Several types of service routings can be considered for the downtown circulator. However, a key consideration regarding the basic design of the service coverage is its ability to address several current gaps in transit coverage within the downtown area. Figure 5 illustrates these gaps in downtown service.

Part of the reason for the current service gaps in downtown Bellevue is the lack of bus zones along the affected streets. As part of the dispersed service recommendation identified through the BTC expansion, new zones will be established in downtown. The provision of these new zones will make it more feasible for the circulator to address the current gaps.

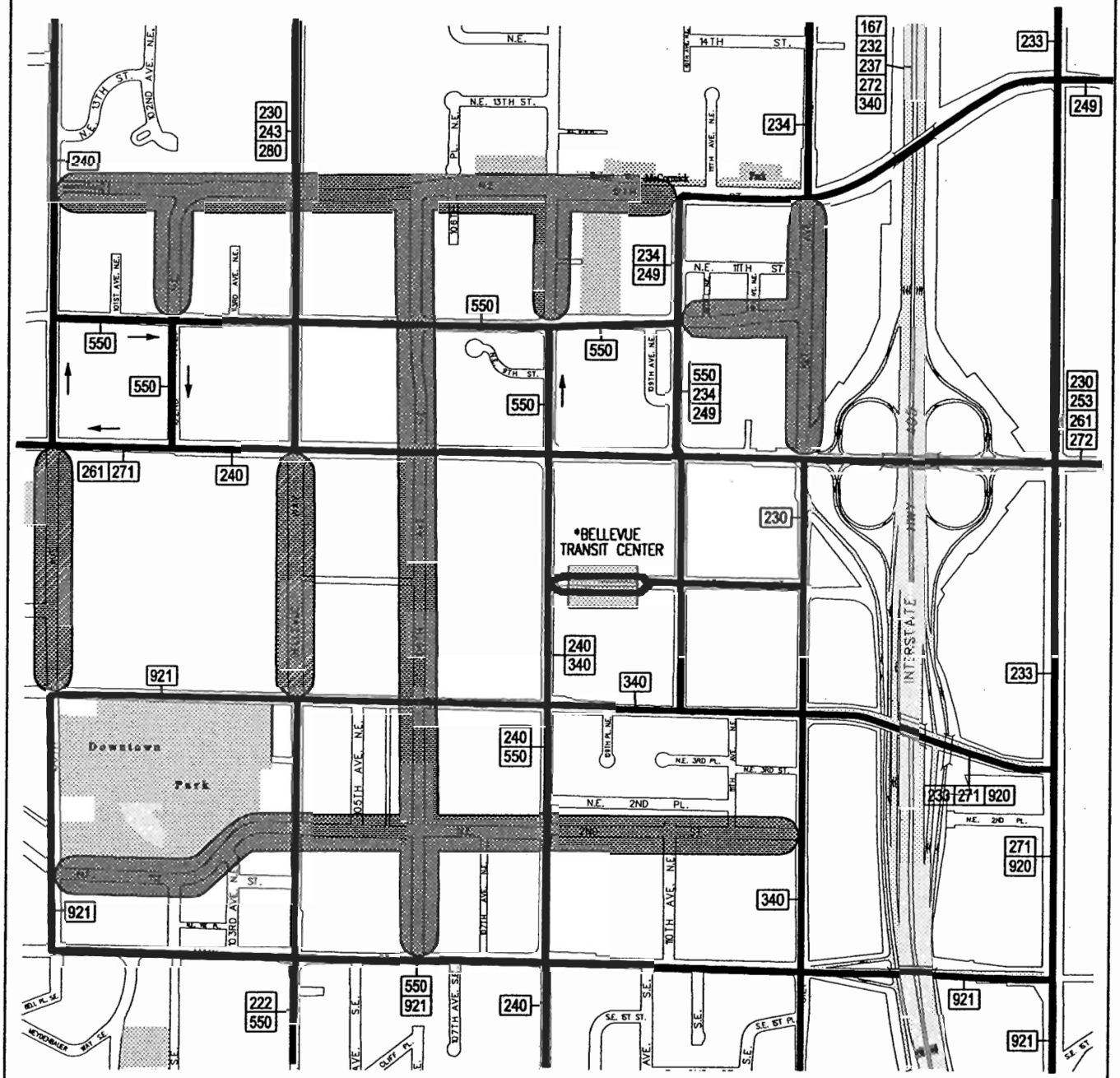
Three basic types of service coverage can be considered for the downtown circulator: loop routes, individual linear routes, and a network of linear routes. Each option can address current service coverage gaps while also providing access to major downtown generators.

Table 3 – Potential Service Characteristics and Technologies for Downtown Bellevue Circulator

Potential Service Characteristics	Potential Market Impacts	Possible Coordination Issues	Direction from Circulator Case Studies	Notes
Service Coverage				
Loop	Potential for filling in current service "gaps" in downtown Bellevue. Loops can cover a large area with a single route; even if two-way service may be circuitous routing, resulting in relatively long travel times for short-distance trips.	With a loop configuration, shared layover space will likely be limited to a single location, most likely the BTC.	The case studies indicated a mix of loop and linear routes with Spokane Transit downtown Shuttle providing both.	Circulator service may require higher frequencies to attract riders.
Single Linear Route	Will be appropriate to serve a single corridor, with current and projected major generators and attractors.	Could be need for shared layover areas with Metro/Sound Transit routes at several locations.	The Orlando Lymmo involves a single linear route that is reinforced through its own dedicated lane.	106th Avenue, Bellevue Way, 102nd Avenue are possible candidates for corridor service.
Multiple Routes (Network)	Can meet needs involving multiple corridors.	Will require coordination with Metro for use of several potential layover areas in downtown Bellevue. Multiple routes can also help address requirements for mitigation efforts for Access Downtown projects.	None of the case studies indicated this type of coverage. The Downtown Seattle fare free service constitutes a localized, multi-route system.	Could be confusing for riders unfamiliar with all the routes operative in Downtown.
Dial-A-Ride	Requires an extra step since service has to be requested. Some offset to this through convenience of door to door coverage.	May require some form of fixed schedule at BTC to allow convenient transfers.	None of the case studies included demand response service.	To provide demand response service may result in some diversion of service between origins and destinations.
Frequency of Service				
> 15-minute	This level of service could provide basic coverage in an economic manner. However, it will likely require riders to carry schedules to determine bus arrivals.	With headways greater than 15 minutes, schedule coordination with Metro and ST routes will be likely, particularly the "pulse" at BTC.	Most of the circulator services were operating at 15 minutes or less.	Attracting ridership could be difficult since most trips in downtown involve short walking distances.

Table 3 - (Continued)

Potential Service Characteristics	Potential Market Impacts	Possible Coordination Issues	Direction from Circulator Case Studies	Notes
15 minutes or less	In addition to the general attractiveness of this service level, it will result in the circulator standing out as unique compared to current 30- and 60- minute service in downtown Bellevue.	Schedule coordination will not likely be necessary.	Given the relatively short distances for some of the case study services, the 15-minute service can be achieved without major capital or operating costs.	
Span Of Service				
Midday Only	Would meet shopping, medical and some entertainment markets.	Would not meet expected requirements to attract riders during Access Downtown construction.	Kent Shopper Shuttle was only case study system with midday-only service	This minimal approach would likely be targeted to downtown residents, particularly transit-dependent.
Peak/Midday/Early Evening	Meets commuter retail and some entertainment markets. Operating in early evening provides a cushion for commuters using the service.	Will likely meet most of the demand associated with TDM efforts for the Access Downtown projects.	Most of the case studies provided at least peak and midday services.	The peak service may have greater potential given the major growth in downtown housing since the mid-1990s.
All day weekday plus weekends	Would address all markets including emerging entertainment/ cultural market.	If combined with frequent (< 15 minutes) service, this service level can provide an attractive incentive for travel within the downtown area during Access Downtown construction. It will also complement ST's regional express program.	Services in Boulder and Orlando provided coverage during the day weekdays and weekends. The Orlando service offered late evening service since it is focused on a major sports / entertainment complex.	This feature would address lack of late evening and weekend service on several routes serving downtown.
Passenger Fares				
Fare Free	Provides an incentive for circulator since riders do not need to have exact change or passes. Also makes boarding easier for buses with two doors.	Avoids transfer agreements with Metro and Sound Transit	Several provided fare-free service. The experience in Renton indicated no abuse of the service even though no fares are charged.	Avoids administrative tasks – handling / accounting for cash receipts.
Charge	Could discourage use by current transit riders; some may feel that they are paying twice.	Avoids transfer agreements with Metro and Sound Transit	Spokane's circulator service has a 25-cent charge but also honors passes and transfers.	Helps defray costs but the share of revenues to total operating costs will likely be low.
Charge but accept transfers and passes	For many riders this option results in fare-free service since they are already carrying passes or have a transfer.	If operated by City of Bellevue, will require transfer agreements.	Spokane and Boulder have this type of fare. Spokane is a reduced fare while Boulder charges same fares as regional routes.	Revenues under this option will be particularly low since many riders will have transfers and passes.



= STREETS WITH NO CURRENT METRO COVERAGE

= CURRENT METRO COVERAGE

The Transpo Group

Figure 5

Transit Coverage and Gaps in Downtown Bellevue

Downtown Bellevue Circulator

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Loop Routes

The case studies indicated a mix of loop and linear routes, with the Spokane Transit downtown Shuttle providing both types. Loops can cover a large area with a single route. However, even if two-way service is provided, there may be some circuitous routing resulting in relatively long travel times for short-distance trips. An example is current Metro Route 921 operating between downtown and the Factoria/Somerset area. When entering downtown the route serves the Bellevue Square area before accessing the BTC. For those riders destined to the BTC or nearby generators additional travel time is incurred.

The loop can provide an advantage regarding coordination with other downtown transit services. With a loop configuration, shared layover space will likely be limited to a single location, most likely the BTC.

Linear Route

This type of circulator coverage is appropriate when focusing service on a single corridor with existing and projected major generators and attractors. Because of its directness, this service configuration can be competitive with auto travel. Possible candidates for this type of coverage are 106th Avenue, Bellevue Way, and 100th Avenue.

Dial-A-Ride

Dial-A-Ride Service could also be provided to meet circulation needs in downtown Bellevue. This concept would have the advantage of serving patrons close to their origins and destinations. Since no "Fixed Route" would be required, the vehicles can potentially access any transit zone in the downtown area.

A potential disadvantage of a Dial-A-Ride Service is that direct origin/destination access may not always be possible. Since multiple rides may have to be served with each vehicle trip, some patrons may have to be diverted in order for the service to meet the needs of another patron. In addition, Dial-A-Ride adds another layer of effort by the user since a call has to be made for each trip.

Network of Linear Routes

This approach could meet service needs for several corridors while providing direct service along their alignment. Since it would meet the needs involving multiple corridors, a network of linear routes should have the greatest impact particularly in meeting mitigation efforts for *Access Downtown* projects. This service configuration will also likely require coordination with Metro for use of several potential layover areas in downtown Bellevue.

Frequency of Service

Several types of service frequencies can be considered for the downtown circulator. However, to provide an adequate level of service consistent with other downtown shuttle and circulator routes the frequency should likely be 30 minutes or less. Within this overall frequency target the following identifies two major variations:

- Greater than 15 minutes but less than 30 minutes; or
- Fifteen minutes or less.

Several of the case studies indicated very frequent service for circulator service of 15 minutes or less. However, some basic service frequencies could be considered for the circulator that exceed 15 minutes.

Greater than 15 Minutes but Less Than 30 Minutes

Basic coverage can be provided with this service frequency. However, they will likely require riders to carry schedules to determine bus arrivals. In addition, with headways greater than 15 minutes, schedule coordination with Metro and ST routes will be likely, particularly with the current coordinated departures for some Metro routes at the BTC.

15 Minutes or Less

This level of service will result in the circulator standing out as unique compared to current 30- and 60-minute service *modules* currently operated by King County Metro and Sound Transit in downtown Bellevue. Because of high service frequencies, coordination with Metro and Sound Transit services in downtown Bellevue will not likely be necessary.

Span of Service

Previous circulator services operating in Bellevue operated during midday, Monday through Friday. The case studies indicated that only the Kent Shopper Shuttle was operating midday only. Consideration for potentially more extensive span of service in Bellevue could be considered given the expected continued growth in downtown housing and entertainment facilities. This growth could result in more *internal* demand by a variety of markets.

Midday Only

While limited in scope, this service span would meet some shopping, medical and entertainment markets. However, in addition to not meeting other travel markets such as commuters, this service span would most likely meet any expectation for the circulator to attract significant levels of riders during *Access Downtown* construction.

Peak/Midday/Early Evening Service

This span of service will meet a variety of travel needs including commuter, retail, and some entertainment markets. In addition to satisfying several non-work markets, circulator service in the early evening provides a cushion for commuters with later than normal work schedules. This aspect of the service will complement Sound Transit's gradual implementation of Regional Express routes in downtown Bellevue with extensive service periods. A service period covering peak, midday, and early evening periods will likely meet most of the demand associated with any transportation demand management efforts for the *Access Downtown* projects.

All-Day Weekday Plus Weekend Service

This service span will meet a variety of markets including entertainment and cultural activities that are emerging in downtown Bellevue. As part of any mitigation efforts for the Access Downtown projects, this service level can provide an attractive incentive for transit

travel within the downtown. This attraction will be particularly effective when combined with frequent service.

Circulator Fares

A variety of fares can be considered for the downtown circulator service. Most of the service covered by the case studies provided fare-free service. Spokane and Boulder charged fares. A City of Boulder representative indicated that the fares helped instill a higher value for the riding public vs. a fare free system.

The following identifies three potential fare types for the downtown circulator.

Charge (no honoring of passes/transfers)

Without honoring fares or transfers, this approach to fares could discourage use by current transit riders. Some riders may not distinguish the downtown circulator from other Metro service and may feel that they are paying twice. In addition, the need for exact change to pay the fare could be a barrier. One advantage of this option is that it would avoid transfer agreements with Metro and Sound Transit. While this alternative would help defray costs, the share of revenues to total operating costs will likely be low.

Charge for Service but Honor Passes and Transfers

This option results in fare-free service for those riders who have passes or a transfer. Spokane and Boulder have this type of fare for their respective downtown circulators. Spokane is reduced (25 cents) while Boulder charges the same fares for regional routes (75 cents) as for basic fare. If the circulator is operated by City of Bellevue, this approach will require a transfer agreement with Metro and Sound Transit. Revenues under this option could be particularly low since some riders will be using transfers or have a pass.

Fare Free

In addition to no charges, fare-free service provides an incentive since riders do not need to have exact change or passes. With a fare-free system, accessing service will be easier if the circulator uses buses with two doors since they each can be used for boarding and exiting. A fare free system will also avoid potential transfer agreements with Metro and Sound Transit.

A fare free system will avoid administrative tasks associated with handling of cash and related accounting. A potential disadvantage of the fare-free system is the loss in revenues. However, this "loss" may not be significant when compared to an option that involves a fare plus honoring passes and transfers. Section 8 of this report further describes potential fare free service options.

7. POTENTIAL CIRCULATOR TECHNOLOGIES

Several potential technologies can be considered for the downtown circulator service. These *technologies* focus on vehicles that can be considered for the service. Also of importance are features that will help complement circulator operations. These features include streetscape at circulator stops, possible priority treatments, and information systems for riders.

Vehicles for the Circulator

There is a potentially wide range of vehicle types that can be considered for a downtown circulator. This section describes key features for four basic types of vehicles that could be candidates for the service. Table 4 provides an overview of these vehicle types.

Table 4 - Potential Vehicles for Downtown Circulator

Vehicle Type	Length	Seats	Lifespan	Cost	# of Doors
Cutaway Vans	20 feet	18	4	$70,000	1
Small Bus*	30-foot	30	12	$222,000	1 or 2
Small Bus/Contemporary Design	30-foot	28 to 32	12	$250,000 (est.)	1 or 2
Historic Trolley**	Varies	30	12	$300,000	1

* *Per recent purchase by King County Metro*
** *Per trolley used for Spokane downtown shuttle*

Van (Cutaway) Vehicles

These vehicles have a truck chassis as a base and include a shell used as a passenger compartment. They are used for a variety of circulator services such as airport/rent-a-car shuttles and community-level transit. Current King County Metro circulator services in Kent and Renton use this type of vehicle; also, several other routes with low ridership use this type of vehicle.

Figure 6

A photo of a cutaway vehicles is shown in Figure 6. At $70,000 per unit, these vehicles are relatively inexpensive and are available from a variety of manufacturers and distributors. However, the expected lifespan of these 20-foot vehicles is 4 years as compared to 12 years for a 30-foot bus.

Small Buses

Several vendors offer small 30-foot buses. A key distinguishing feature distinguishing these vehicles from cutaway vans is that they have a bus frame that results in a more comfortable ride, roomier interiors, and a longer life-span. King County Metro is in the process of acquiring several of these vehicles. An illustration of one type of small bus, operating in Salt Lake City is shown in Figure 7.

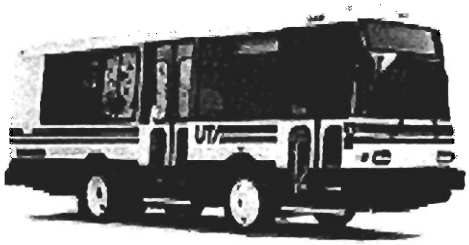


Figure 7

While this vehicle is substantially higher in cost than the cutaway types, the life-span is substantially longer: 12 years versus 4 years. In addition, the seating and standing capacity is substantially greater than the cutaway vans.

The 30-foot buses operated by Metro provide a single door near the front. However, some manufacturers offer models with two doors. The *Hop* service in Boulder, Colorado uses 30-foot buses with two doors. While a two-door model will incur higher maintenance costs and reduce seating by four seats, it would also provide faster turnaround at stops, particularly if fare-free service is provided.

Figure 8

Small Buses with Contemporary Look

A variation of the small bus, shown in Figure 8, would involve a more contemporary look that would make it stand out from other transit services. Several vendors provide this type of vehicle. In addition to the contemporary design, some of these vehicles provide features such as low floors or kneeling features. This eases boarding and exiting, particularly for riders with disabilities.

Historic Trolley Buses

The historic trolley buses can provide a circulator service with a higher profile vs. more typical transit vehicles. The circulator service operating in downtown Spokane uses this type of vehicle. Figure 9 provides an illustration of the vehicle operating in downtown Spokane at the Spokane Transit Authority's downtown Plaza.

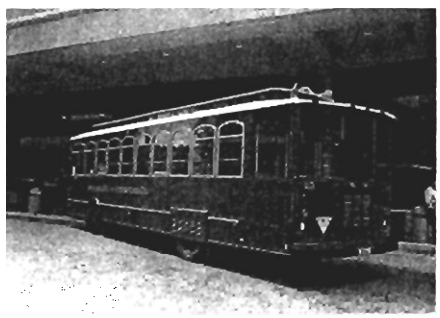


Figure 9

Consistent with the historic theme some of the historic coaches have wooden seats that may discourage ridership. Other features such as high back seats should be evaluated given public response to the initial vehicle design for the downtown Spokane shuttle service.

Exclusive Rapid Transit

One option to provide local circulation in downtown Bellevue is through vehicles operating in an elevated right-of-way. This option will have an advantage over other technologies since they will not have to mix with traffic. Limitation regarding this option involves potential costs and associated lead time to design and construct. In addition, there may be issues involving access since the number of potential stops in downtown Bellevue will likely be limited. This limitation will help keep costs down and operating speeds high. However, these limited stops will mean overall coverage in downtown will be relatively low, compared to other options.

Supporting Features and Technologies

In addition to vehicles, the downtown circulator service can also be supported by facility and technology-related improvements. The following further describes potential improvements, some of which were identified through the circulator case studies.

Distinctive Graphics

While the selected vehicles can give the downtown circulator service a high profile, the circulator can also call attention to itself through distinctive graphics. Graphic design for the vehicles and other components can be significant in attracting attention and resulting ridership for the service. For example, the planning for the Boulder *Hop* included a major effort at the design of the paint scheme for the vehicles that distinguished them from buses provided by the regional operator.

In the case of the Orlando Lymmo, the graphics, which cost $10,000 per vehicle, are sometimes tied to promotional events at the downtown art museum. Even this relatively small cost (versus a total vehicle cost for a small bus of up to $300,000), can be defrayed through sale of advertising, as it is in Orlando.

Streetscape Enhancements

Several circulators currently in operation are supported by complementary improvements at service stops or zones. For example, the downtown shuttle operating in Spokane serves stops that have information signs complementing the historic *look* that is provided by the trolley vehicles. Along some segments of the shuttle route, these enhancements have been integrated with sidewalk cafes. The Orlando Lymmo service has landscaped stations along the exclusive bus lane of the route. This feature further increases the visibility of the service. This visibility is evident for both riders of the service as well as others in the downtown Orlando community.

For the Bellevue downtown circulator any major streetscape enhancements will likely have to be coordinated with urban design efforts being undertaken through the City's *Downtown Implementation Plan* update. A possible opportunity for integrating the circulator-related information with overall urban design efforts could involve a downtown pathfinder signing system. The circulator information can then be a part of an overall system guiding

pedestrians to major downtown activity areas. However, relatively minor items such as information signs could be considered during the system's initial implementation phase.

Passenger Information

Information at circulator stops could range from basic signs indicating that the circulator serves the stop to Intelligent Transportation Systems providing real-time information on the expected arrivals of the vehicles. Systems such as Nextbus provide real-time information on bus schedules through global positioning satellite technology. The information is then made available at stationary locations such as bus stops, portable electronic displays, and the Internet.

For the Bellevue downtown circulator the passenger information signs could go beyond what is normally provided at a typical Metro stop, at least for key locations (e.g., transfer points) along its route. This extra information could include the following:

- A simple graphic showing the alignment of the route, major stops, and the location of the subject stop;
- Service frequencies including possible variation by time of day;
- A list of major stops and major nearby attractions;
- Service start and finish times as well as service days per week; and
- Identification of fares, including fare-free service.

Preferential Treatment

Examples of preferential treatment include dedicated bus lanes (as in Orlando) and possible signal priority treatments or other measures that improve the speed and reliability of transit service. For downtown Bellevue, this type of possible transit treatment will likely have to be addressed through the Circulation element of the Downtown Implementation update. The downtown circulator, however, could have other types of treatments that will provide a benefit to its riders.

If transit signal priority is considered, the potential for ITS-related applications for passenger information will be more feasible. The computer controlled system for the signal priorities could also provide the real-time schedule information at major circulator stops.

8. FARE FREE SERVICE OPTIONS

Section 6 of this report presented various characteristics of a stand-alone downtown circulator. Rather than implement a new circulator system in downtown Bellevue, incentives can be provided to encourage greater use of current downtown service services. While there are current gaps in service coverage, the availability of fare-free service may provide an incentive for greater use of transit for internal downtown travel.

This section presents two potential options for how this fare-free approach could be applied in downtown Bellevue.

1. **Option 1** involves a blanket conversion of Metro and Sound Transit routes to fare free service in the downtown area.
2. **Option 2** would provide fare-free service on selected routes that provide reasonably good connections within the downtown area.

The following further describes these options.

System-Level Application for Fare Free Service

Under this approach fare-free service would be available on *all* Metro and Sound Transit routes serving downtown Bellevue. Key advantages of this option are as follows:

- The approach is simple since any rider could board any bus without paying for the service as long as his/her trip starts and ends in downtown Bellevue.
- The entire network of routes connecting major destinations in downtown would be available to riders.

A possible disadvantage of this approach is being able to distinguish downtown from non-downtown riders. If administered like the *Ride Free Area* of downtown Seattle, patrons boarding in downtown Bellevue would pay *after* they exit unless that exit is in downtown Bellevue. However, downtown Bellevue is an intermediate location for several routes traveling between the Eastside and other locations in King and County.

When riders exit buses after they leave downtown Bellevue, there would have to be some system in place to distinguish those that paid from those boarding and exiting in downtown Bellevue. For example, all cash-paying patrons could be issued a ticket when boarding that would have to be surrendered when exiting in Seattle.

This method of payment could be time consuming, particularly in peak periods since it will be taking place at major generators. These generators include downtown Seattle (Sound Transit 550, Metro 261) and the University District (Metro 271).

Selected Routes for Fare-Free Application

Under this option, the fare free approach would apply only to those routes that have reasonably good coverage in the downtown area. Since several Metro routes such as 340, 230, and 249 serve a relatively small area of downtown, a fare-free option will not likely generate major additional ridership.

If a limited number of routes were considered for fare-free service, potential confusion and time delays associated with a system-wide application will be minimized. As indicated by Figure 10, three potential Metro routes (240, 271, and 921) provide good access to major destinations in downtown Bellevue. The figure also provides an overview of service frequency by route during various time periods. These routes can serve as possible candidates for a limited fare-free application.

Route 240 – Clyde Hill/Bellevue/Renton

Route 240 operates between Clyde Hill and Renton via downtown Bellevue. Within downtown Bellevue, the route serves two important corridors:

- NE 8th Street between 100th Avenue NE and 108th Avenue NE; and
- 108th Avenue NE between NE 8th Street and the Surrey Downs residential area immediately south of downtown.

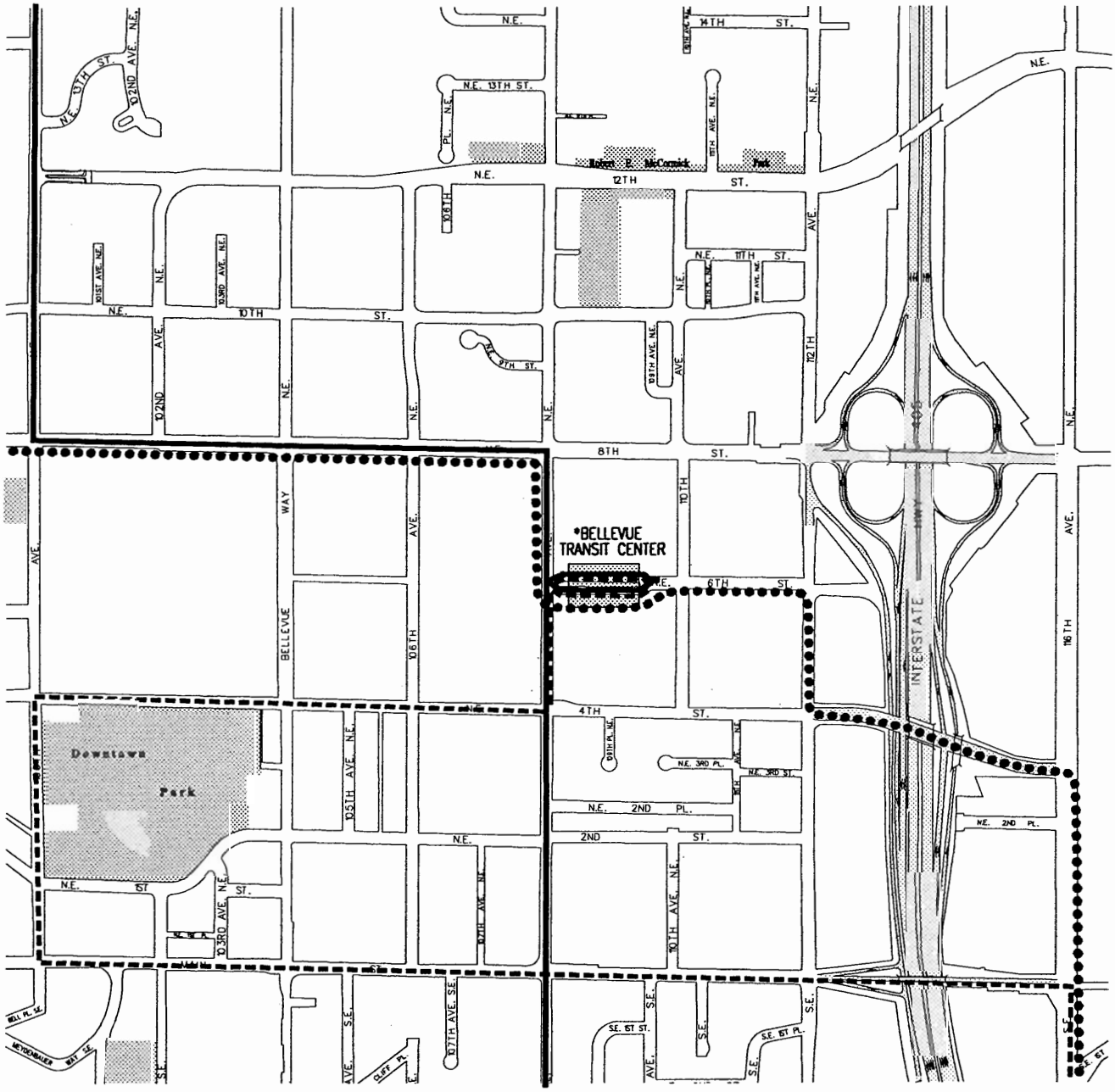
In addition to fare-free service, additional incentive for using the service will likely require two possible modifications involving service coverage and frequency. In order to serve the growing residential development in the Ashwood area, Route 240 could be realigned along NE 12th Street or NE 10th Street rather than NE 8th Street. However, if this change were made, riders destined to Bellevue Square would have a one-block walk to reach that destination.

Another possible change to encourage ridership on Route 240 is improved frequencies. Currently, the route operates approximately every 25 minutes during peak periods and every 60 minutes during the midday. As a minimum, a circulator service should operate every 30 minutes to have any chance of attracting riders. If service frequencies are improved, consideration should be given to limiting the improvement to that segment of Route 240 operating within downtown or its edges. Otherwise, the cost for the improvement along the entire route will be substantial.

Route 271-Issaquah/Bellevue/UW

Route 271 provides a direct connection between the City Hall area and the employment area in the vicinity of the BTC. The route also serves retail/employment activities in the area of NE 8th Street and Bellevue Way.

Service frequencies on Route 271 are good during peak periods. However, service operates every 30 minutes during the midday, and every 60 minutes in the evening.



= ROUTE 240

= ROUTE 271

= ROUTE 921

SERVICE FREQUENCY				
ROUTE	PEAK	MIDDAY	EVENING	WEEKEND
240	30	60	-	60
271	15	30	60	30
921	30/40	60	-	-

The Transpo Group

Figure 10

Metro Transit Routes 240, 271 & 921- Downtown Bellevue

Downtown Bellevue Circulator

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Route 921- Factoria/Somerset/Downtown Bellevue

Route 921 operates between Factoria/Somerset and downtown Bellevue. The route accesses city hall on 116th Avenue NE and along Main Street between 116th Avenue NE and 100th Avenue NE. Possible routing options to enhance Route 291 as a local circulator include a diversion south of Main Street to serve multi-family housing in the Old Main area of downtown. However, this diversion would add travel time to a route that already has a circuitous alignment within downtown.

As is the case with Routes 240 and 271, frequencies for Route 921 would have to be improved to provide service comparable to typical circulator service. Currently, Route 921 operates 30-minute service during a short period in the AM and PM peaks. During most of its service, period service is provided every 60 minutes. At a minimum, circulator service should be provided every 30 minutes during its service period.

9. DIRECTION FOR SERVICE DESIGN

This section presents key information that provides direction for the service design of the downtown Bellevue circulator. Several information sources provided direction for service design. These sources included the following:

1. Assessment of the general market that could influence the design of the circulator. This market includes estimated growth in population and employment in downtown Bellevue.
2. Identification of coordination needs involving future downtown Bellevue developments, particularly those items that will be included in the *Access Downtown* program.
3. Development of case studies for other circulator systems that have been implemented in downtown areas.
4. Identification of potential concepts and technologies that could be considered for downtown Bellevue.

Previous sections of this report identify results of the above items.

Another major source of information that provides direction for the circulator design involves the results of the market research task. Appendix B of this report contains key findings of the market research effort. Several of the market research findings provide key direction for several elements that are included under the service design of the circulator.

This section of the report consists of the following:

Operational Considerations: Several potential routing configurations were identified in order to determine any major operational issues. This section identified potential routing as well as operational areas that will require attention by any recommended routing.

Direction from Market Survey: The survey of downtown Bellevue workers and residents provided insight and direction for several potential features of circulator design. Questions addressed in the survey dealt with such items as potential headways, service start/finish times, types of potential circulator vehicles, and whether fares should be charged.

Operational Considerations

This section describes several operations-related issues relating to potential future routings for a downtown Bellevue circulator. While the market survey results provide important direction for the circulator's service design, several operations-related issues were also identified as part of the study.

An assessment of current transit and auto travel times within the downtown Bellevue study area also provided direction as to potential circulator routings. This section describes results of the travel time survey as well as the assessment of potential routings.

Travel Time Survey

Several factors can be considered to help determine a routing for a downtown circulator. One major item is the potential for reducing transit travel times to make them more competitive with auto travel times. As part of the circulator study, transit and auto travel times were identified for several selected origins and destinations in downtown Bellevue. The selected origin-destination pairs are:

- Overlake Hospital-Bellevue Galleria
- City Hall-BTC
- BTC-Overlake Hospital
- Main Street/102nd Avenue-Bellevue Library
- BTC-Main Street/102nd Avenue
- Meydenbauer Center-Bellevue Square
- NE 10th/106th Avenue-BTC
- 110th Avenue/NE 10th Street-Bellevue Square

Figure 11 provides an illustration of the of the travel time results. On average, transit travel time exceeds auto travel time by almost four minutes. However, for several travel pairs, the difference is substantially higher. These pairs are Overlake Hospital-Bellevue Galleria, City Hall-BTC, BTC-Overlake Hospital, and Main Street-102nd Avenue-Bellevue Library. As potential routings are considered, the current travel time differences involving transit and auto travel should be kept in mind. Those links with significantly higher transit travel times could be candidates for more direct connections that may be provided by a downtown circulator.

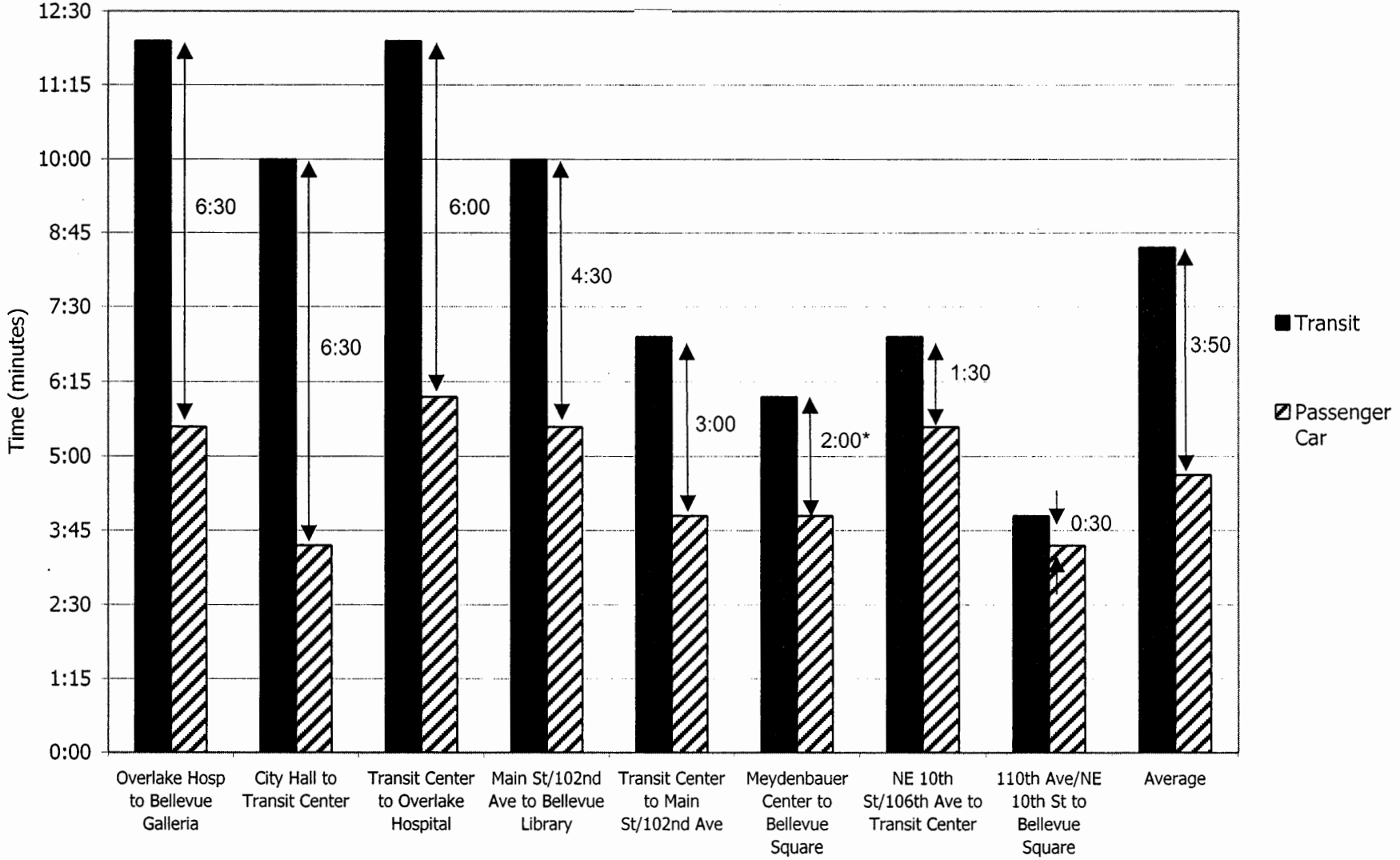
Potential Operations Issues

On August 17, 2000, field checks were carried out for several routing options that can be considered for a future downtown Bellevue circulator service. The field checks conducted for the various options indicated the following key findings.

- Some of the routings will need to be modified to reflect current traffic conditions and to provide closer access to current/potential generators.
- The eastern boundary of the circulator's service area should be limited to 116th Avenue.
- New routings will be necessary if vehicles larger than 25 feet are assigned to the circulator.

The following route descriptions and accompanying maps reflect the findings reflect these major findings.

Figure 11
Travel Time Comparison in Downtown Bellevue
(Passenger Car vs. Transit)



Option 1(A)

This routing connects Overlake Hospital with Bellevue Square and recently built multi-family housing in the southwest sector of downtown. The route also serves the north-central residential area of downtown as well as the BTC. The route provides high visibility through access to Bellevue Square, the new Bellevue Art Museum, and the pedestrian corridor. Figure 12 illustrates a potential routing for this option.

The following characteristics should be considered for Option 1(A):

- At Overlake Hospital, transit vehicles should enter at the north driveway and operate counter-clockwise within the complex. The vehicles can exit at the signalized south access point. A portion of the loading area directly in front of the building can serve as a transit zone. No layovers would occur at Overlake.

- New transit zones should be established along NE 12th Street between 112th Avenue and I-405. This will provide access to the new *12th @ 12th* office building. The location of this building at the NE fringe of downtown may make it a candidate for circulator access to the BTC, shopping, and restaurants in the central part of downtown Bellevue.

- Southbound vehicles leaving the BTC will use NE 8th Street to access 108th Avenue. However, the field checks indicated a rather long wait at the left turn signal (westbound to southbound). An alternative routing would have the vehicles on NE 8th Street make a left on 106th Avenue and then right (westbound) on NE 4th Street. This alternative will not provide the circulator with high visibility. Ideally, two-way operations on NE 6th Street would allow the circulator to provide access to Bellevue Square Mall. However, the current plans call for two-way traffic for only a *portion* of the block between Bellevue Way and 106th Avenue.
- Circulator service on 106th Avenue will support this street as an emerging transit corridor. Also, service in the area of 106th Avenue and NE 6th Street will reinforce Sound Transit's investment in new facilities in an area with high visibility and a pedestrian friendly atmosphere.
- Per Bellevue staff, stops along Bellevue Way will be permissible provided they are on the far side of NE 6th Street.
- The estimated travel time between Overlake Hospital and the south end of Downtown Park (south terminus) is 23 minutes.

Option 1(B)

Option 1(B) also connects Overlake Hospital with Bellevue Square and the southwest residential area of downtown. The key variation from Option 1(A) is that it would not operate to the BTC. The closest stops to the BTC would be at NE 8th Street and 108th Avenue one block north of the transit center. Figure 13 illustrates the routing for this option.

- The operating characteristics noted under Option 1(A) will also apply to Option 1(B).

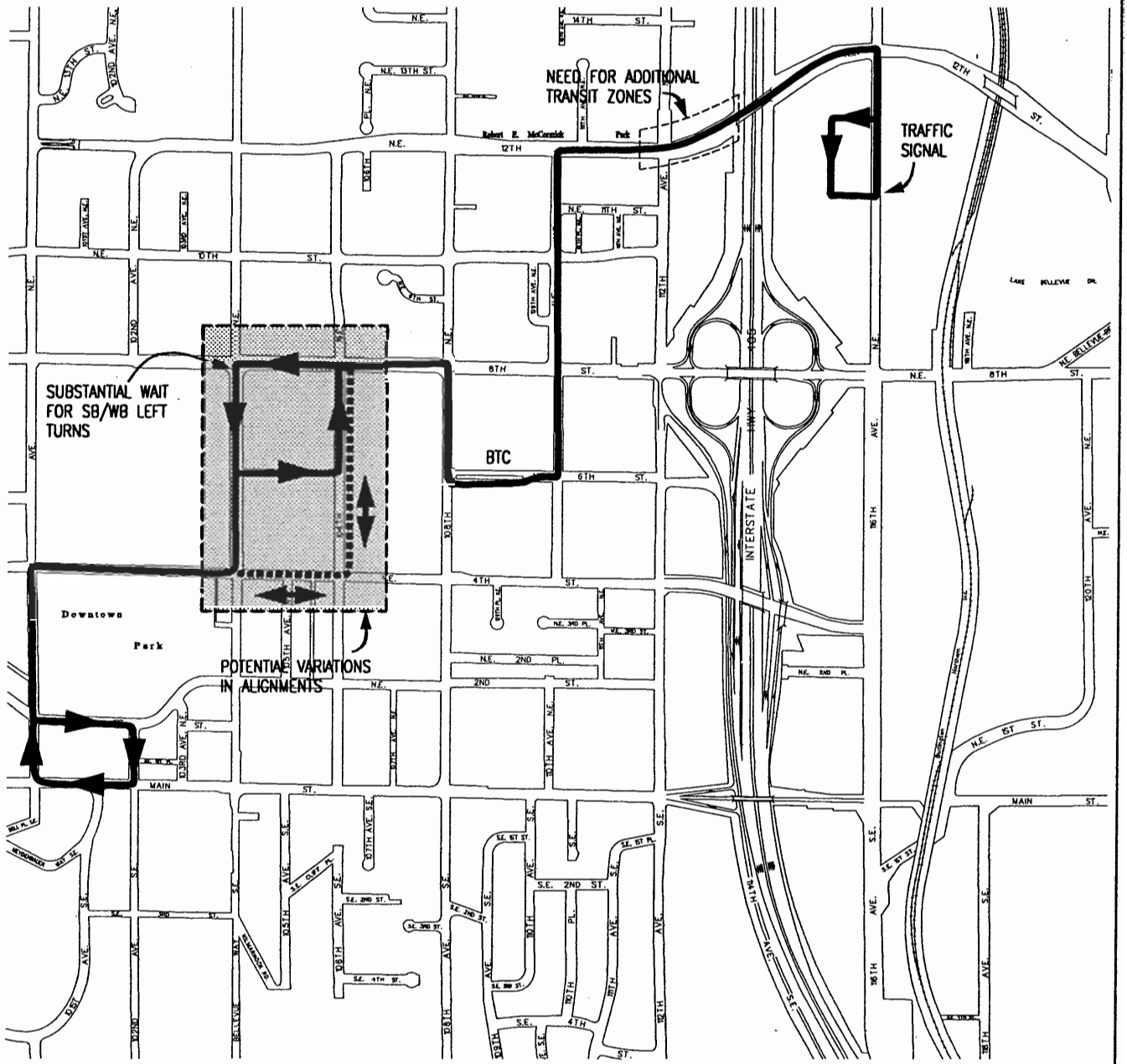


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Figure 12

Option 1(A)- Overlake Hospital/ Bellevue Square Via BTC

Downtown Bellevue Transit Circulator

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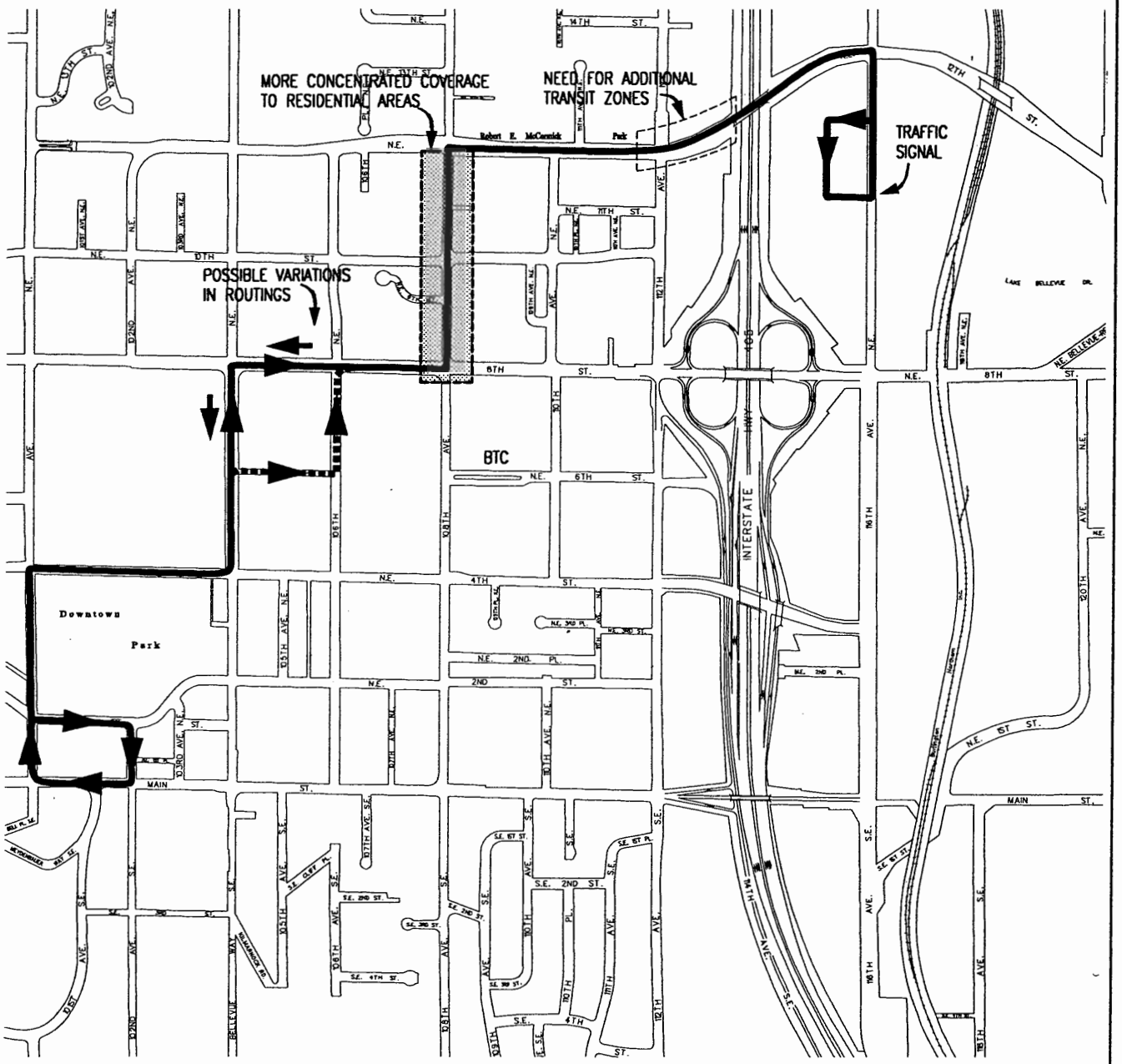

Figure 13

Option 1(B)- Overlake Hospital/ Bellevue Square Via 8th Street

Downtown Bellevue Transit Circulator

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- By operating on 110th Avenue, the circulator will provide more centralized access to new residential developments taking place north of NE 8th Street.
- As is the case with Option 1(A), consideration should be given to having the route operate on 106th Avenue south of NE 8th Street. This will avoid the long wait for the left turn light at NE 8th Street and Bellevue Way (westbound to southbound movement).
- The estimated travel time between Overlake Hospital and the south end of Downtown Park (south terminus) is 19 minutes.

Option 2(A)

Under the initial operating concept for this option, City Hall will be connected with the north residential area via NE 4th Street and Bellevue Way. As is the case with Option 1(B), this alignment would not connect with the BTC. Figure 14 illustrates the routing for this option.

The following characteristics should be considered for this option:

- A clock-wise loop at Bellevue city hall seems feasible using a 25-foot van. Restrictions on the use of the access road by the Police Department would have to be waived for transit vehicles.
- It was recommended during the field visit that the circulator vehicles make a right turn from Main Street to 110th Avenue. This will provide access to the Atrium office building that includes CTR affected employers.
- When the extension of 110th Avenue is completed, the circulator can continue to NE 4th Street and the new Summit Ridge office development currently under construction.
- Before the 110th Avenue extension is complete, the route can operate on NE 2nd Street and 108th Avenue, thereby serving the Opus IV apartments located in the vicinity.
- North of NE 4th, the circulator could serve Bellevue Way with stops at NE 6th Street. The variation to this option is the have the vehicles serve 106th Avenue and then Bellevue Square Mall via a stop on Bellevue Way (north of NE 8th Street).
- For southbound trips back to city hall, the field check indicated limited opportunities for stops on the west side of Bellevue Way north of NE 8th Street. This limitation provides greater strength to an alignment using 106th Avenue NE.
- If the circulator uses 108th Avenue, NE 8th Street, and 106th Avenue for the southbound trip, there will be a tight turning radius for right turns (eastbound on NE 8th Street to southbound on 106th Avenue). However, Sound Transit has plans to improve this intersection.
- The estimated travel time between Overlake Hospital and the south end of Downtown Park (south terminus) is 12 minutes.

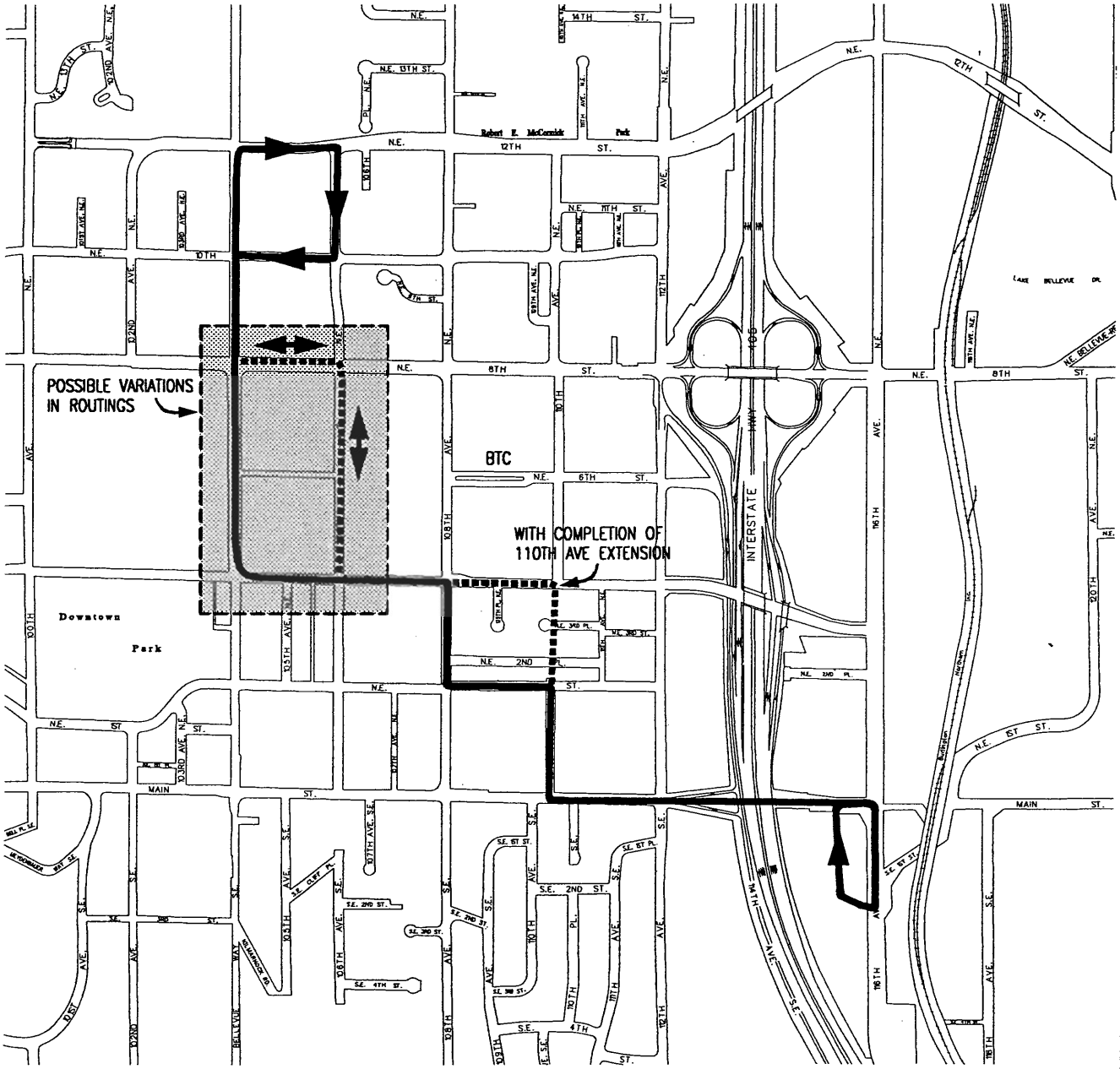

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Figure 14

Option 2(A)- City Hall/ North Residential Via 4th Ave

Downtown Bellevue Transit Circulator

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Option 2(B)

This routing connects City Hall with the north residential area but it will also connect with the BTC. Figure 15 illustrates the routing for this option.

- The operating characteristics for Option 2B will be the same as Option 2(A) except for the access to the BTC.
- A variation of this Option that has the circulator operating on 106th Avenue will result in a more direct between the current and future residential developments in north downtown with the BTC.
- The estimated travel time between Overlake Hospital and the south end of Downtown Park (south terminus) is 17 minutes.

Extension Along SE 1st Street

The field check provided an opportunity to assess the operating feasibility of having Option 2 include an extension along SE 1st Street to serve office developments including Microsoft. It would also serve employees at Home Depot, Larry's Market, etc. The field check indicated that a loop to serve this area would result in significant additional operating time of approximately 12 minutes. A major portion of this time involves waiting for a left-turn arrow at NE 8th Street and 116th Avenue (westbound to southbound movement). Given the additional operating time for this extension and resulting delays for customers, an extension along SE 1st Street is not recommended for inclusion in any of the circulator alternatives.

Conclusions

The review of potential circulator routings in downtown Bellevue identified potential issues relating to operations. Figure 16 provides an overview of key operational issues. Of particular importance are current and future restrictions on transit vehicle movements in the downtown area. These restrictions include:

- Turnarounds at City Hall and Overlake Hospital will be feasible with a 25-foot van; however, these maneuvers will not be feasible for a 30-foot minibus.
- Any operations in the NE 6th Street/Bellevue area will need to recognize restrictions on any future left turns from 6th to Bellevue Way.
- There are substantial waiting times for westbound traffic on NE 8th Street that are turning south (left) on Bellevue Way.
- Right turns from 102nd Avenue to Main Street will be feasible for small 25-foot vehicles but not for 30-foot minibuses.
- A layover at the south end of Downtown Park will be available in 2001. However, since Metro vehicles will be using the space as well, there may be some capacity issues. Future layover area on 101st Avenue SE between SE 2nd Street and Meydenbauer Way (near Wildwood Park) and at 110th Avenue between NE 2nd Place and NE 3rd Street may be more feasible in terms of meeting the layover requirements of the circulator and Metro routes.

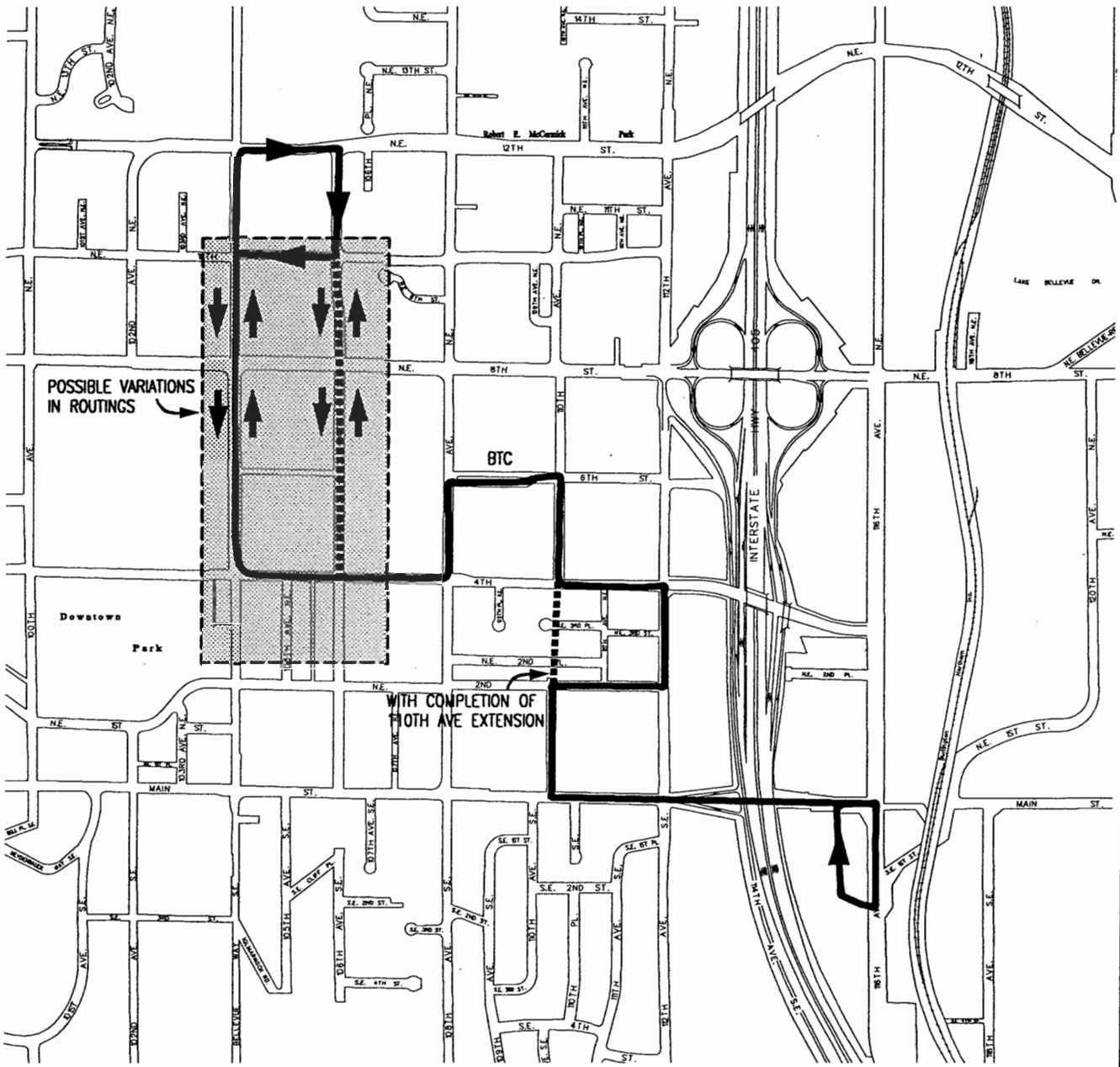

Figure 15

Option 2(B)- City Hall/ North Residential Via BTC

Downtown Bellevue Transit Circulator

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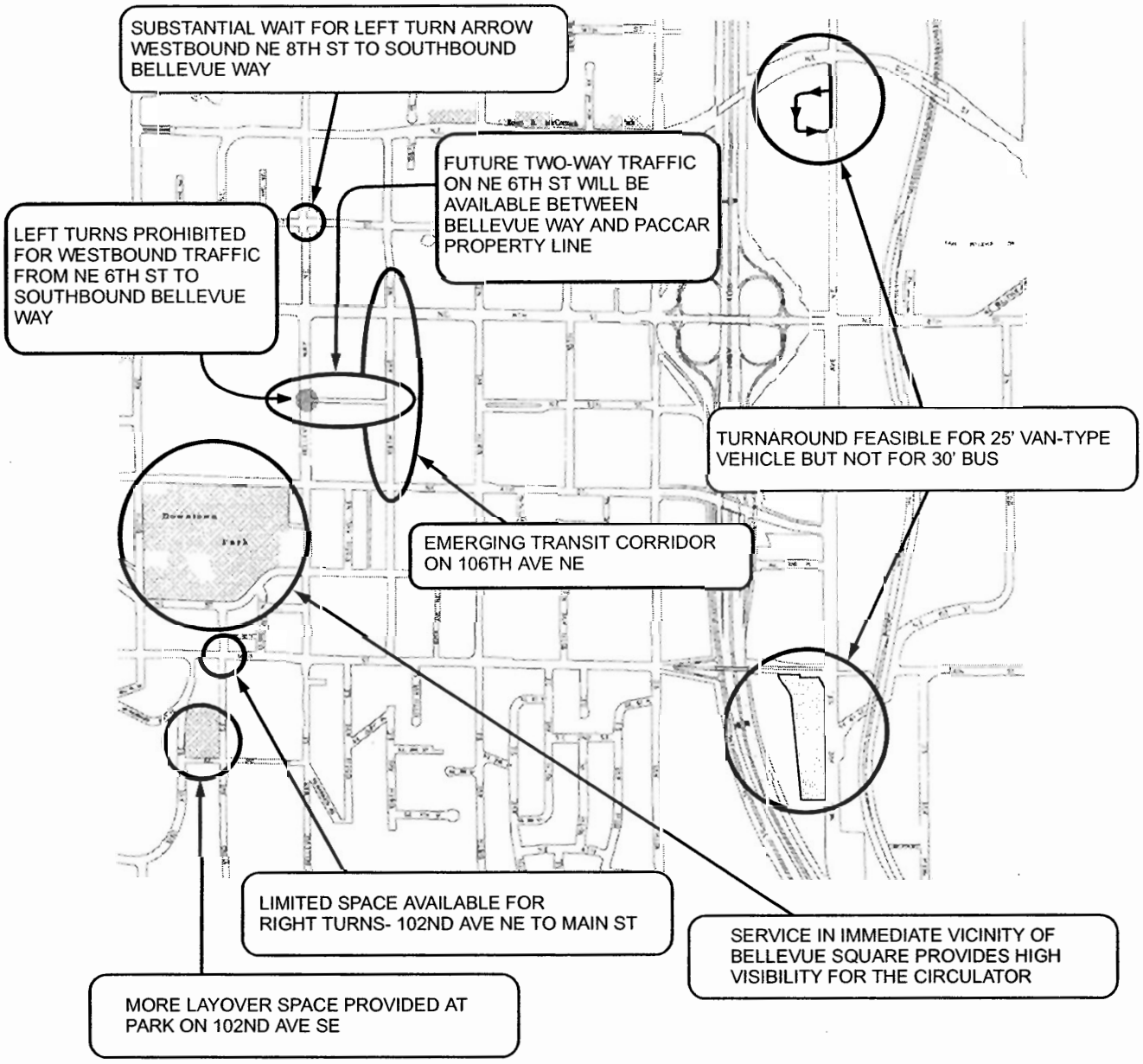

The Transpo Group

Figure 16
Operational Issues at Downtown Locations

Downtown Bellevue Transit Circulator

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While there are some potential constraints regarding potential circulator operations, there are also opportunities that will complement its routing. The new layover locations cited above provides more flexibility for locating schedule recovery and operators rest areas in the southwest area of downtown Bellevue. The future emphasis on dispersed transit service in the downtown includes significant transit facility improvements in the area of NE 6th Street and 106th Avenue.

Direction From Market Survey

A potential circulator operating in downtown Bellevue will need to address key operations-related issues as defined in the previous section. However, another major overall issue that the circulator will need to address is the ability to meet market needs and priorities of the downtown community for both workers and residents. The downtown community's interest in a circulator and the potential use of the service provided key direction for determining recommended service features such as routing, types of vehicles that can be used, service periods, and fares.

The market research involved a web-based survey of downtown Bellevue office workers and residents. Appendix A contains the survey questionnaire used for the market research. Office workers and residents were screened to determine if they lived in downtown Bellevue, an area defined by Main Street, NE 12th Street, 100th Avenue, and 116th Avenue NE. The survey consisted of 307 interviews. The sample was provided through several recruiting efforts, including the following:

- Intercepts in downtown Bellevue office buildings;
- Intercepts in other locations in Downtown Bellevue (e.g. Downtown Park);
- Drop-boxes in downtown apartment and condominium buildings; and
- Random telephone surveying.

The following summarizes the market research effort and key results. More detailed information on the survey is presented in Appendix B. The key results focus on the extent of support for the circulator as well as direction provided by the survey results for several features of a potential circulator. These features are:

- Frequency of service;
- Service coverage expressed in terms of interest in using the circulator for various types of travel within downtown Bellevue;
- Start and Finish Times;
- Days of Service;
- Facilities at Bus Stops;
- Type of Vehicle; and
- Fares

A conjoint analysis was carried out as part of the survey. Respondents were asked to evaluate a group of potential circulator features or attributes. As key characteristic are changed (e.g., service frequency is reduced from 10 minutes to 15 minutes) responses can be determined. Appendix C of this report provides more detailed results of the conjoint analysis.

Profile of the Respondents – Mode Share and Transit Use

A large majority (66 percent) of respondents drive alone to and from work, while sixty-four percent (64 percent) drive alone for their personal travel. This drive-alone mode share is similar to the results of another survey of downtown workers carried out in 2000 by the City of Bellevue. Neither residents nor workers differ from the majority in their mode choice for work or personal travel. Seventy-three percent of residents drive alone to and from work, as do 61 percent of workers. An almost equal number from each group also ride the bus – 20 percent residents and 21 percent workers – for their work travel. The share for bus travel is slightly above the results for the employee conducted earlier this year.

When those respondents who had not ridden a bus in the past month were asked if they have ever used a bus, 68 percent said they have ridden a bus, 8 percent have considered riding a bus, and 24 percent have neither ridden nor considered riding a bus. Respondents who have not ridden a bus, those who have considered riding and those who have neither ridden nor considered riding, were asked the main reason they haven't ridden a bus. Responses included the following:

- The bus is inconvenient and inflexible (60 percent);
- I don't need to take the bus (16 percent);
- I need my car for work (5 percent), and;
- The bus doesn't go where I need it (4 percent).

Support for the Circulator

Respondents were presented with a brief description of a potential circulator service and asked the extent to which they support the idea. There is substantial support for the concept of a downtown Bellevue circulator. Forty-two percent of the respondents strongly support the idea; an additional 29 percent somewhat support the proposal. Support is strongest among Bellevue residents (57 percent strongly support) compared with those who just work in downtown Bellevue (31 percent strongly support).

Preferences for Potential Circulator Features

The following identifies the preferences of the survey respondents relating to potential service characteristics of a downtown circulator.

Service Frequency

A range of service frequencies between 5 and 30 minutes were presented. Service involving 20- or 30-minute headways had a negative response. However, the results also indicated that service frequency was less important than other features such as span of service. Respondents are equally concerned with the time service ends in the evening; 11 percent identified it as the most important consideration. Relatively frequent service (every 5 or 10 minutes) has the highest utility. However, when presented with a *package* of potential circulator attributes, the respondents indicated little change in preference when the frequency of service was changed from 10 to 15 minutes.

Service Coverage

The survey results provided direction for potential service coverage. Responses dealt with potential activity areas that could be accessed by a circulator. In addition, responses regarding walking distance thresholds provide direction for potential routings. Finally, the responses relating to transfers to/from Metro and Sound Transit service provide direction as to the need for the circulator to serve the BTC.

Access to Activity Centers: The respondents were asked to focus on their travel in and around downtown Bellevue and identify the number of times per week, mode used, and likelihood of using a circulator for a number of activities within downtown Bellevue. Residents are more likely than workers to indicate they would use the service for grocery shopping (22 percent compared to 7 percent very likely), eat dinner at restaurants in downtown Bellevue (12 percent compared to 4 percent very likely), go to the movies (20 percent compared to 5 percent very likely), and visit friends and family (10 percent compared to 2 percent very likely).

Workers are more likely than residents to indicate they would use the service to go to work (17 percent very likely compared to 8 percent). Respondents who both live and work in downtown Bellevue are more likely than workers to consider using the circulator to go to the movies in downtown Bellevue (17 percent compared to 5 percent). This group is more likely than those who live but do not work in downtown Bellevue to indicate they are somewhat likely to use the service to go to work in downtown Bellevue (19 percent compared to 3 percent).

Walking Distance: Another information item regarding potential circulator routing involves walking distances. The survey results indicated that the distance one must walk to a bus stop is a relatively unimportant attribute of circulator service (about 4 percent indicated that it was important). Respondents are generally willing to walk two to three blocks to a bus stop to catch a downtown circulator.

Transfer to Other Transit Service: A third area of the survey relating to potential routing involves access to the BTC and other locations where transfers to/from the circulator could occur. The majority of respondents (40 percent) are not at all likely to use King County Metro or Sound Transit buses to connect to or from the circulator. Workers are more likely than residents (21 percent compared to 18 percent) to indicate they are very likely to use KC Metro or ST buses to connect to or from the circulator. Respondents who support the proposed service are much more likely than those who are neutral to the proposal to indicate they would use connecting services (21 percent compared to 10 percent).

Service Span

The results of the conjoint analysis provided important direction relating to the start and finish times of a potential circulator. Providing service that extends into the evening hours (at least until 9 p.m.) was considered important. However, an early starting time was not considered important.

Service During the Week

The survey results also indicated that the service days of the circulator would be important. About 24 percent of the respondents indicated that service during the week was a most important consideration. Respondents strongly prefer daily service, both weekday and weekend. However, limiting service to weekdays only also had a positive response. A circulator service limited to weekends only offers little utility per the survey results.

Facilities at Bus Stops

Respondents were given potential options regarding various facilities that could be at a circulator bus stop, e.g. shelter or a bench. The results indicated that only 3 percent of the respondents indicated that potential facilities were an important attribute.

Type of Vehicle

Respondents were shown four possible options for circulator vehicles and asked to name their first and second choice preferences for the vehicle. The four choices were:

A. A van-type vehicle similar to what is operated by Metro;

B. A 30-foot minibus;

C. A modern-looking minibus;

D. An historic trolley-type bus.

Overall, respondents prefer Choice D, the trolley car vehicle, as their first choice in vehicles to operate in downtown Bellevue. However, the majority of residents (43 percent compared to 19 percent workers) prefer Choice B, while workers prefer Choice D (38 percent compared to 22 percent workers).

Choice B was the option chosen by the majority (34 percent) of respondents as their second choice.

Fares

The cost of a one-way trip is by far the most important consideration; 45 percent of respondents identified it as a most important consideration. As would be expected the utility is highest for a free service. However, a fare of 25 or 50 cents also achieves an above-average utility value.

10. CIRCULATOR SERVICE DESIGN

This section presents the recommended service design for a potential downtown Bellevue circulator service. The recommendations are based on several factors that were addressed in this study. These factors included the following:

- Several case studies of circulator services currently operating in the US.
- An assessment of the general market in downtown Bellevue including growth projections for employment and population.
- An identification of potential coordination issues involving the circulator and developments that will impacts downtown Bellevue.
- The operations issues identified in Section 9 of this report.
- Key results of the market research carried out for the circulator study as documented in Appendix B and summarized in Section 9 of this report.

The recommended service design involves several key features. These features are generally consistent with potential service and fare categories that were presented in the survey of downtown Bellevue workers and residents.

Fares

The cost of the fare was a major factor noted by the survey. In addition, the case studies of other circulator systems indicate that many are fare-free thereby providing another attractive feature. In addition to attracting ridership, a fare-free service provides operational benefits since boarding will be expedited. Also, in the event that a two-door vehicle is used boarding and alighting take place at the front and rear doors. *It is therefore recommended that the service be operated fare-free to the riders.*

If fares are not charged, the loss in revenues to Metro will need to be made up. This compensation is currently provided to Metro Renton, Kent, and other communities where fare-free circulator service is provided.

Circulator Vehicles

The market research indicated preference for either a 30-foot minibus or an historic trolley-type bus. The information from the case studies indicated that a different vehicle or at least an identifiable color scheme would help promote the service. *It is recommended that 30-foot vehicles be assigned to the circulator comparable to the current Metro buses.* A color scheme that would distinguish the vehicles should also be emphasized. Per a survey of Renton Urban Shuttle riders, the most significant source of information for the service was the presence of the buses on city streets.

Frequency of Service

The case studies of current circulator systems indicated that frequent service (every 15 minutes or less) was common. In addition, when the various projects involving Access

Downtown get underway frequent service will likely be necessary to attract some of those currently driving alone to the circulator service.

The results of the market survey indicated that features such as service hours and days were more important than service frequencies. However, the results also indicated that headways beyond 15 minutes would not get much of a response. While service every 5 and 10 minutes will provide a major attraction, the resulting costs will be substantial. In addition, this service level could negatively impact proposed new layover locations in the north and south end of downtown. *Therefore, based on the combined results of the case studies and the market research, 15-minute headways are recommended.*

Service Periods

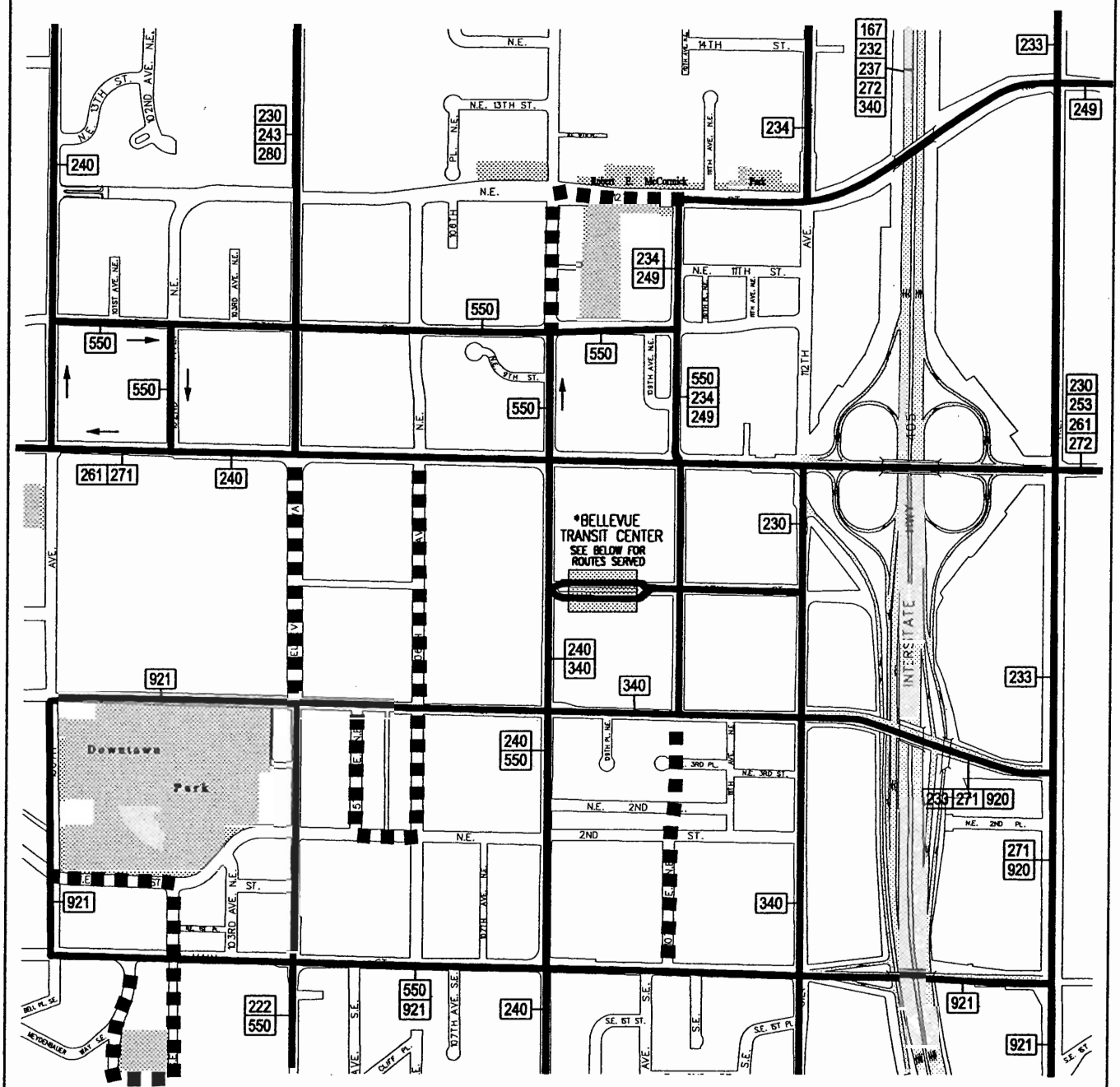
The market research indicated that any use of the service would likely involve non-work trips. In addition, the results indicated that the circulator should operate to 9 p.m. and that weekend service be provided. However, the results also indicated lack of support for an early morning start for the service. Most of the systems covered by the case studies had earlier start but they were also trying to attract commuters.

With the gradual increase in entertainment, cultural, and shopping activities in downtown Bellevue, the circulator should provide a wide service span during the day and at least one day of weekend service. *It is recommended that service be provided Monday through Saturday and that the service period start at 9 a.m. and end at 9 p.m.*

Service Coverage

The operations review and the results of the market survey provide important direction regarding a potential service alignment for the circulator. However, potential service coverage should also keep in mind service routings by Metro and Sound Transit routes. Key benefits of a potential downtown circulator include providing coverage where it does not currently exist and to provide more direct access within downtown. This section provides a summary of current service as well as recommended changes in terms of new connections.

Figure 17 shows current and potential future Metro service coverage in downtown Bellevue. Currently, good basic coverage is provided along most arterials in downtown Bellevue. However, there is lack of continual, no-transfer, and frequent service connections between key locations. For example, Route 249 connects Overlake Hospital to central downtown but the service does not continue west to Bellevue Square. Route 271 connects the City Hall area with the BTC and NE 8th Street; however, during midday and evening, this route operates every 30 minutes.



*BELLEVUE TRANSIT CENTER			
167	237	271	535
222	240	280	550
230	243	340	565
232	249	530	920
233	253	531	921
234	261	532	

= EXISTING ROUTES

= POTENTIAL NEW COVERAGE (PRELIMINARY; SUBJECT TO FURTHER REVIEW BY METRO KING COUNTY STAFF AND THE GENERAL PUBLIC)

The Transpo Group

Figure 17

Metro Transit Routes- Downtown Bellevue

Downtown Bellevue Circulator

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The routing options identified as part of the operations assessment provide potential links that would enhance connections in downtown. Also, the possible connections are consistent with responses from the market survey indicating a preference for access to shopping and other kinds of attractions in the central part of downtown Bellevue.

The circulator routing options described in Section 9 directly connect several major generators and attractors in downtown Bellevue. Under Option 1, the connections involve a southwest-to-northeast orientation; under Option 2, a southeast-to-northwest connection is provided. Even further coverage will be provided if the above coverage is *combined.*

The Technical Advisory Committee for the Downtown Bellevue Circulator Study discussed potential routings using the previously described alignment options as a basis. The committee, which included Bellevue Transportation Department staff, a transit planner from King County Metro, and the project consultant agreed on a routing that can be presented for further review. This routing is intended to address several priority items noted by committee members. These items are:

- A single route is preferred over multiple routes. A single route is more easily understandable to potential riders.

- Close access to Bellevue Square is important not only from the standpoint of serving a major travel generator but also in terms of providing high visibility for the circulator service.

- Service along Bellevue Way between NE 8th Street and NE 4th Street is preferred given current lack of transit coverage along this important street.

- Service to the northwest sector of downtown, particularly to Overlake Hospital, is important given current lack of frequent and direct transit access between this area and the central part of downtown.

- While the BTC is an important transit hub in downtown, access to it by the circulator will result in circuitous routing and additional travel time to the riders. This results from the route serving both the Bellevue Square area and the northwest sector of downtown. Ideally, a transit link along NE 6th Street between Bellevue Way and 110th Avenue will provide direct access to BTC while also serving Bellevue Square and northwest downtown Bellevue. However, current right-of-way constraints plus the NE 6th Street pedestrian corridor between 106th Avenue NE and 108th Avenue preclude this transit link. The Implementation section of this report further discusses this issue.

- Transit coverage along NE 2nd Street was considered important since it provides an alternative to NE 4th and NE 8th Streets and it is not currently served by transit. At some future point, NE 2nd Street may emerge as pedestrian-friendly corridor that will support and complement future transit access.

- A quick link between the City Hall/Leavitt Building complex and central downtown is important. Currently, King County Metro Route 271 provides access between City Hall and the Bellevue Square. However, service during midday is every half-hour and the route has to serve the BTC.

- Access to the northwest sector of downtown (general area of Bellevue Way and NE 12th Street) is not at this time a major priority. Coverage in this area can be re-visited later, particularly after potential major residential developments occur in the north area of downtown.

- The circulator should take advantage of future layover areas on 105th Avenue NE between NE 4th and NE 2nd Street and on 111th Avenue NE between NE 3rd Street and NE 2nd Place.

With the above preferred service items as a basis, a potential routing for downtown Bellevue circulator was developed. Figure 18 illustrates this routing. The routing provides a direct, two-way link between central downtown and the growing multi-family residential areas in the southwest and northwest areas of downtown Bellevue. By operating along Bellevue Way, the circulator will be highly visible to the public while at the same time providing convenient access to Bellevue Square and the new Bellevue Art Museum at Bellevue Way and NE 6th Street. The circulator alignment will not serve the BTC; however, results of the market survey conducted as part of this study indicated relatively low interest by respondents in transferring between the circulator and other transit routes.

Fare-Free Service

As an alternative to a new circulator route, fare-free service on transit routes operating in downtown Bellevue can enhance access within downtown Bellevue. Section 8 described potential advantages and disadvantages of a fare-free approach. In summary, there could be administrative issues raised as to who is eligible for the free fares – i.e. those getting *on and off* in a designated downtown free fare zone.

In addition, the levels of service provided by most routes operating in downtown Bellevue will not meet the 15-minute frequency target called out for the circulator. Some routes such as King County Metro Route 271 provide 15-minute serving in the weekday peak periods but 30 minutes or less during midday and evening periods. The one major exception to this is Sound Transit Route 550 operating between downtown Bellevue and downtown Seattle. This route provides 15-minute service during the midday (weekdays) and 30-minute service during evenings and weekends.

Finally, the fare-free option would not result in the visibility of a dedicated circulator route in downtown Bellevue. This visibility and identity was a major factor in the success of other downtown circulator services as presented in the case studies conducted for the Downtown Bellevue Circulator project.

While there are potential issues with a fare-free approach, there is a major advantage relating to costs. Some revenue losses will occur as a result of fare-free on downtown routes; however, this loss will likely be a fraction of the costs that will be required for a separate circulator route. Section 11 further describes the estimated costs for circulator service. The City of Bellevue could consider the fare-free option if funds from King County Metro, the City of Bellevue, or other sources are not available for a dedicated circulator route.

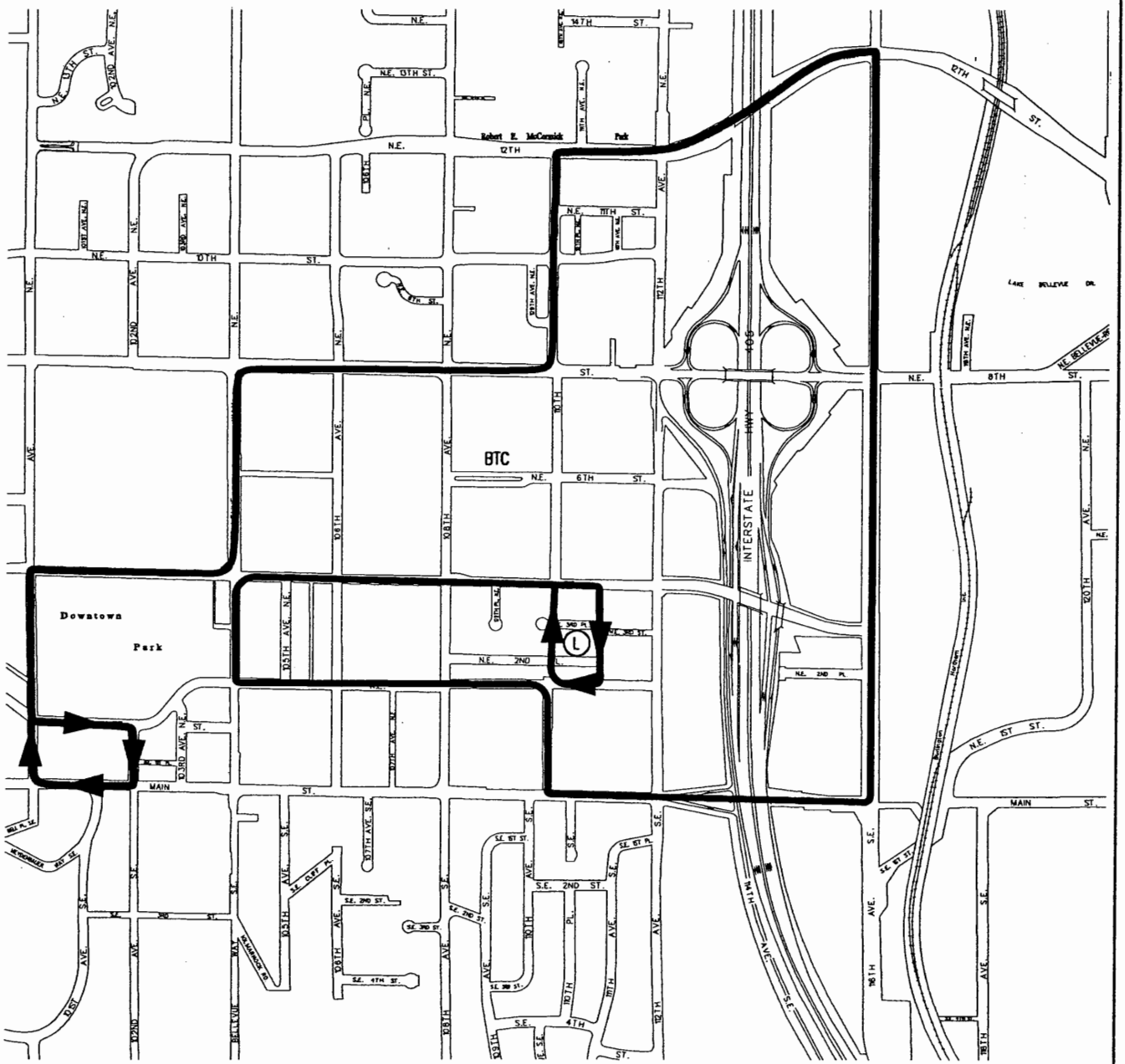

Figure 18
Circulator Alignment

Downtown Bellevue Transit Circulator

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Dial-a-Ride Service

A potential variation of the routing recommended for the circulator could involve designating a portion of downtown as a dial-a-ride transit or DART area. One candidate area is that portion of the north residential area between 108th Avenue and Bellevue Way. While several major residential developments are proposed for this area, the recommended circulator alignment does not serve some sectors. However, under a demand-response mode, any part of the area could potentially be available for pick-ups and drop-offs. The service would still have to have fixed departure times in the area – most likely at the north layover location at NE 10th Street between Bellevue Way and 106th Avenue NE.

One factor that may work against a potential dial-a-ride variation is the public's willingness to walk to and from circulator stops. The market research results indicated that they could walk two or more blocks to reach service. Given the potential service coverage on NE 10th Street and 106th Avenue NE, there may be sufficient coverage to attract ridership without the need for dial-a-ride access.

11. IMPLEMENTATION STRATEGIES

Several implementation strategies can be considered for the downtown Bellevue circulator. These strategies include recommendations regarding financial support for a downtown Bellevue circulator service. The approval of King County's 0.2 cents sales tax measure will allow some expansion of Metro service on the Eastside. However, no specific funding of downtown Bellevue circulator has been identified by Metro. Therefore, potential City of Bellevue support for the circulator could be necessary.

Included among implementation strategies are marketing efforts that will help attract ridership. These strategies could also provide the City of Bellevue an opportunity to assume an active role in the planning and ongoing support for a circulator service. The results of the market research effort, presented under Section 9 of this report, provide some direction regarding potential marketing efforts.

Service Responsibilities

Several options can be considered regarding planning, scheduling, and operations of potential downtown Bellevue circulator. These options are further described below:

Metro Operated Route

Under this scenario, the downtown Bellevue circulator will be among regular Metro routes. As such, the circulator will need to be included in one of the service changes that occur three times per year: February, June, and September. As a regular route, the circulator will be included in the King County Metro's planning and scheduling efforts. In addition, public schedules for the circulator, including those posted on Metro's web site, will be provided.

Since the circulator is a Metro route under this scenario, it will have to be reviewed and approved by the King County Council. In addition, sufficient lead time will be required between Council approval and service implementation in order to allow sufficient time to develop schedules, print public schedules, etc. Once a decision is made regarding service features such as routing and frequencies, there is approximately a four-month lead-time before implementation.

Metro Contracted Service

The circulator route could be operated by one of King County Metro's service contractors. If this occurs, Metro or one of its contractors could still handle scheduling. In addition, publicity efforts will also be provided. One potential advantage of the contractor option is a shorter lead-time for implementation. Once a decision is made to implement the service, the lead-time can range between two and four months. Other advantages of using a contractor for the service involve vehicle flexibility and costs. If a vehicle different from what Metro normally operates is selected for the circulator, the contractors have more leeway in using this type. Under a contractor option, the cost per service hour will be less than a Metro route. An hourly cost of $55 is estimated for a contractor-operated van versus $63 for Metro service.

Bellevue-Operated Service

A third option for operating the circulator is for the City of Bellevue to operate the service through the services of a contractor. There is precedent for a city within King County to operate a circulator service. The City of Kent's Shopper Shuttle was initially operated independent of Metro.

The following major considerations will need to be kept in mind regarding any City-operated circulator service:

1. Metro would still have to provide permission for the service. This is an administrative decision and does not require King County Council approval.
2. The service can operate up to one year before being taken over by Metro. In previous cases where a city initiated the service, this period provided a demonstration of the service's potential success.
3. No fares should be charged for the service.
4. The City or its contractor would have to procure via purchase or lease the necessary number of vehicles to operate the circulator service.

It should be noted that some contribution from the City of Bellevue might be necessary even if King County supports the service financially. If the circulator service is provided fare-free, the loss in potential revenue will have to be made up. The specified loss will be identified in any agreements between the City and King County Metro regarding operations.

Costs and Ridership

A decision by Metro and Bellevue to operate and or fund the service will be in part driven by estimated operating costs. Tables 5 and 6 identify estimated annual costs under two scenarios: a Metro-operated service using 30-foot minibuses and a contractor-operated service using vans. An annual cost of approximately $904,000 is identified for the Metro-operated service and approximately $789,000 for the contractor operated service. Consistent with the preferred service design features presented in Section 10 of this report, the costs assume 15-minute headways and a service span of 12 hours (9 a.m. to 9 p.m.). Saturday service is also provided.

Table 5
Downtown Bellevue Transit Circulator
Preliminary Transit Service Cost Estimates: Metro Operated

	Operations					Cost Impacts			
		Headways	Buses	Span of Service		Additional	Additional	Additional	Total
Service Periods	Total Travel Time (min)	(time between buses)	Required (total travel/ headways)	Start Time	End Time	Hours per Bus (weekday)	Hours per Bus (annual)	Costs per Bus (annual)	Additional Costs (annual)
WEEKDAY SERVICE									
Midday	60	15	4	9 AM	3 PM	6 hrs	1,482	$ 93,366	$ 373,464
PM Peak	60	15	4	3 PM	6 PM	3 hrs	741	$ 46,683	$ 186,732
Evening	60	15	4	6 PM	9 PM	3 hrs	741	$ 46,683	$ 186,732
							Subtotal		$ 746,928
SATURDAY SERVICE									
All Day	60	15	4	9 AM	9 PM	12 hrs	624	$ 39,312	$ 157,248
							Subtotal		$ 157,248
							TOTAL		**$ 904,176**

Assume: $ 63.00 /hr *(Estimated hourly cost for fixed-route)*
247 *Weekdays of service/year (allows for 5 holidays per year)*
52 *Saturdays of service/year*

Table 6
Downtown Bellevue Transit Circulator
Preliminary Transit Service Cost Estimates: Contractor Provided

	Operations					Cost Impacts			
				Span of Service					
Service Periods	Total Travel Time (min)	Headways (time between buses)	Buses Required (total travel/ headways)	Start Time	End Time	Additional Hours per Bus (weekday)	Additional Hours per Bus (annual)	Additional Costs per Bus (annual)	Total Additional Costs (annual)
WEEKDAY SERVICE									
Midday	60	15	4	9 AM	3 PM	6 hrs	1,482	$ 81,510	$ 326,040
PM Peak	60	15	4	3 PM	6 PM	3 hrs	741	$ 40,755	$ 163,020
Evening	60	15	4	6 PM	9 PM	3 hrs	741	$ 40,755	$ 163,020
							Subtotal		$ 652,080
SATURDAY SERVICE									
All Day	60	15	4	9 AM	9 PM	12 hrs	624	$ 34,320	$ 137,280
							Subtotal		$ 137,280
							TOTAL		**$ 789,360**

Assume: $ 55.00 /hr (Estimated hourly cost for fixed-route)
247 Weekdays of service/year (allows for 5 holidays per year)
52 Saturdays of service/year

Potential cost savings could occur by reducing the circulator's operating time to approximately 35 minutes, with a recovery time of 8 to 10 minutes. The service will then require three vehicles instead of four. This will result in a 25-percent reduction in annual operation cost to approximately $678,000 under a Metro-operated scenario and $592,000 for a contractor-operated scenario.

Some direction for ridership estimates was provided through the circulator case studies that were carried out for this study. Ridership ranged from around 10 passengers per hour (Kent Shopper Shuttle) to the low 20s per hour (Spokane Plaza/Arena Shuttle). Given the current densities in downtown Bellevue (employment and residential), along with growing entertainment, retail, and eating establishments, a productivity rate of 15 passengers per hour may not be unreasonable. This rate would translate into approximately 900 boardings per weekday.

Circulator Funding

Funding for the circulator by King County may be limited given potential loss of revenue resulting from the passage of Initiative 695. While the 0.2-cents sales tax increase for Metro (approved in November 2000) will replace this funding, there may be limitations on circulator funding given other needs in the Eastside. City of Bellevue funding of the service could be considered as part of the Bellevue's Capital Improvement Program. Another potential source are subsidies from major employers in downtown Bellevue. For example, Metro Route 97 provides circulator service in the North Waterfront area of Seattle. Real Networks and other major employers in the affected area currently support the route.

Other funding efforts may involve support for marketing and promotional efforts for the circulator. These efforts include publicity in employers' in-house newsletters and other forums. Other support for marketing and promotion of the circulator is described below under *Marketing Efforts*.

Marketing Efforts

One key element in achieving future success of a downtown circulator is an effective and ongoing marketing program. Some elements of this program should relate back to emerging markets in downtown Bellevue, particularly the growing residential population. Marketing efforts will also provide an opportunity to bring key stakeholders into the implementation process. Potential involvement of stakeholders is described below.

- Sound Transit and Metro can help in marketing efforts since many of their customers could benefit from the circulator.
- Organizations such as the BDA to help design a marketing effort geared towards downtown employees.
- Condominium associations and apartment building managers can be brought in to help inform owners of the service and its features.
- The City of Bellevue and BDA (Residential Committee) have downtown housing liaison activities that can help initiate this effort.
- Students at Bellevue High School can participate in a *Name the Circulator* contest.
- Other contests could involve logo design and color schemes for the circulator vehicles.

- With the January 2000 opening of the Bellevue Art Museum there could be a tie-in between major showings and the colors of the buses. This joint promotional effort is currently being done in Orlando for the Lymmo circulator service.

The City of Bellevue working with downtown condominium associations, apartment managers, and the Bellevue Downtown Association could consider establishment of a residential-based transit pass program. While it is recommended that the downtown circulator be provided free of charge, a reduced fare program for residents could result in substantial use of the transit network operating in downtown Bellevue.

The City of Boulder Colorado currently sponsors a neighborhood-based program through its "Eco-Pass." This pass is provided through community-funded purchases of annual passes. The passes, in turn, are sold to residents at a substantial discount.

The marketing efforts should also keep in mind market survey results regarding how information should be distributed. The results indicated a preference for distributing information on the Internet, at bus shelters/stops, through the mail, on buses, and at locations of pass sales.

Facilities Supporting the Circulator

The circulator routing identified in Section 10 used the existing and planned street system in downtown Bellevue. However, potential major changes to the alignment could take place if the current pedestrian corridor on NE 6th Street between Bellevue Way and 108th Avenue NE were available for transit service. Part of the corridor, between Bellevue Way and 106th Avenue is available to general traffic but in only one direction. Between 106th Avenue and 108th Avenue the corridor is available only for pedestrians.

By opening this corridor to transit, several benefits will be provided. These include direct access by the circulator between the Bellevue Square/Bellevue Art Museum area and the BTC. The service can then continue north to serve the northwest sector of downtown Bellevue. The new connection will also reinforce and complement the planned transit improvements by Sound Transit in the vicinity of NE 6th Street and 106th Avenue.

Consideration of this corridor could be included as part of the City of Bellevue Capital Improvement Program. It can also be included as part of potential downtown Bellevue enhancements under the current Downtown Implementation Plan.

Appendix A

Survey Questionnaire

QUESTIONNAIRE

City of Bellevue

Downtown Circulator
Final Questionnaire

INTRODUCTION / SCREENER

LOGIN Thank you for agreeing to participate in this survey. The City of Bellevue would like your opinions on transportation in Downtown Bellevue. This survey is for research purposes only.

First, please answer some general questions for us.

Q2 Are you age 18 or older?

1 YES – **[CONTINUE]**
2 NO – [SKIPTO AGETHANK]

Q3 Which of the following best describes your current employment status?

1 Employed full time,
2 Employed part time,
3 Self-employed,
4 Not currently employed outside the home / a homemaker, **[SKIP TO Q6]**
5 A student, **[SKIP TO Q6]**
6 Retired, or **[SKIP TO Q6]**
7 Currently unemployed? **[SKIP TO Q6]**
8 OTHER [SPECIFY] **[SKIP TO Q6]**
9 REFUSED **[SKIP TO Q6]**

Q4 What is the address of your place of work? Please note that this information will only be used for the purposes of this survey and not released in any way.

Q4.1_____[STREET ADDRESS]

Q4.2_____[CITY]

Q4.3_____[ZIP CODE]

Q5 What form of transportation do you **usually** use to get to and from work?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride The Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
9 Refused

Q6 What is your home address? Please know that this information will only be used for the purposes of this survey and not released in any way.

Q6.1_____[STREET ADDRESS]

Q6.2_____[CITY]

Q6.3_____[ZIP CODE]

Q7 How do you usually get around for most of your personal travel – that is, your non-work related travel?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
9 Refused

Q8 Have you personally ridden a bus in the past month?

1 YES
2 NO **[SKIPTO Q11]**

Q9 Thinking about a typical month, how many one-way trips do you make on a bus? Please count a round trip as two one-way trips.

If you have not ridden in the past month please enter '0'.

__ ENTER NUMBER OF TRIPS
999 REFUSED

Q10 How long have you been riding the bus?

1 One Month Or Less
2 One To Six Months
3 Six Months To One Year
4 One To Three Years
5 Three To Five Years
6 More Than Five Years
7 Don't Know/Refused

Q11 **[NOT RIDDEN IN THE PAST MONTH]** Have you personally ever ridden or considered riding a bus?

1 Yes – I've ridden the bus
2 Yes – I've considered riding the bus
3 I have neither ridden nor considered riding the bus
9 Refused

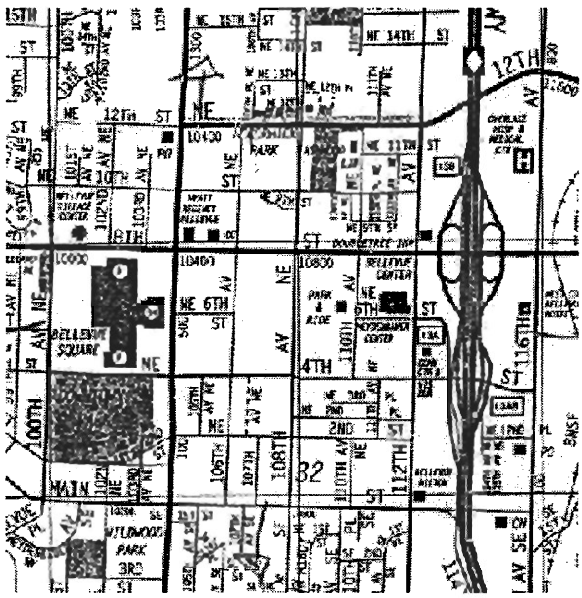
Q12.1 **[IF Q11 = 2 or 3]** What is the main reason you haven't ridden a bus?

[OPEN END]

1 Bus is inconvenient and inflexible
2 I don't need to take the bus
3 The bus does not go where I need it to
4 The bus doesn't go when I need it to
5 I need my car for work
6 Other
9 Refused

Q13 The City of Bellevue is considering implementing a shuttle type bus service called a 'circulator' within Downtown Bellevue.

It will operate within the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E.



What is your initial reaction to such a proposal? Would you say you . . .

1 Strongly support this proposal
2 Somewhat support this proposal
3 Neutral
4 Somewhat oppose this proposal
5 Strongly oppose this proposal
6 Don't Know / Refused

Q13.1.2 Why is that?

[OPEN END]

1 The service would be convenient for me to use for some things
2 The service does not affect me
3 The service would decrease traffic in downtown Bellevue
4 The service would alleviate parking problems
5 I prefer to walk
6 It is a good idea for Bellevue
7 It doesn't run in the right area(s)
8 Other
9 Refused

Q14.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go grocery shopping in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q14.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **go grocery shopping in downtown Bellevue** ?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q14.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . **go grocery shopping?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q15.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go shopping at Bellevue Square or other Downtown Bellevue retail stores?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q15.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to **go shopping at Bellevue Square or other Downtown Bellevue retail stores**?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q15.3 How likely would be you be to consider using a bus service that circulates through downtown Bellevue to . . . **go shopping at Bellevue Square or other Downtown Bellevue retail stores?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q16.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **eat lunch at restaurants in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q16.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **eat lunch at restaurants in downtown Bellevue**?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q16.3 How likely would be you be to consider using a bus service that circulates through downtown Bellevue to . . . **eat lunch at restaurants in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q17.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **eat dinner at restaurants in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q17.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **eat dinner at restaurants in downtown Bellevue**?

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q17.3 How likely would be you be to consider using a bus service that circulates through downtown Bellevue to . . . **eat dinner at restaurants in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q18.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go to bars or nightclubs in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q18.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **to bars or nightclubs in downtown Bellevue?**

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q18.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . . **go to bars or nightclubs in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q19.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go to the library in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q19.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **to the library in downtown Bellevue?**

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q19.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . . **go to the library in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q20.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go to movies in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q20.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **to movies in downtown Bellevue?**

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q20.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . . **go to movies in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q21.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **visit friends and family who live in downtown Bellevue?**

___ ENTER TIMES PER WEEK
999 REFUSED

Q21.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **visit friends and family who live in downtown Bellevue?**

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q21.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . . **visit friends and family who live in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q22.1 Please focus on your travel in and around Downtown Bellevue. For the purposes of this research, Downtown Bellevue is defined as the area between Main Street and N.E. 12th Street and between 100th Ave. N.E. and 116th Ave. N.E. How many times per week do you **go to work in downtown Bellevue?**

___	ENTER TIMES PER WEEK
12	DOES NOT APPLY TO ME **[SKIP TO Q23]**
999	REFUSED

Q22.2 **[IF Q14.1 = 1 or More]** What mode of transportation do you use most often to go **to work in downtown Bellevue?**

1 Drive Alone
2 Carpool Or Vanpool With One Or More People
3 Ride A Bus
4 Motorcycle
5 Walk
6 Bicycle
7 Other [Specify]
8 Don't Know / Refused

Q22.3 How likely would you be to consider using a bus service that circulates through downtown Bellevue to . . . **go to work in downtown Bellevue?**

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know

Q23 Of the following four possible choices for a Circulator vehicle operating in downtown Bellevue, which one do you prefer?

A B C D

9 REFUSED

Q24 Of the following four possible choices for a Circulator vehicle operating in downtown Bellevue, which is your second preference?

A B C D

9 REFUSED

CONJOINT

Q25 – Choice 1

Q26 – Choice 2

Q27 – Choice 3

Q28 – Choice 4

Q29 – Choice 5

Q30 – Choice 6

Q31 – Choice 7

Q32 – Choice 8

Q33 – Choice 9

Q34 – Choice 10

Q35 – Choice 11

Q36 – Choice 12

Q37 – Choice 13

Q38 – Choice 14

Q39 – Choice 15

ALTERNATIVES

Q40 If you would be using this service, how likely would you be to be using King County Metro or Sound Transit buses to connect to or from this service?

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know / REFUSED

Q41 Instead of a new circulator operating in downtown Bellevue, service could be enhanced by offering free access to current service. If free service were provided within the downtown Bellevue core, how likely would you be to consider using the current bus service?

1 Not At All Likely
2 Not Very Likely
3 Undecided
4 Somewhat Likely
5 Very Likely
6 Don't Know / REFUSED

INFORMATION NEEDS

INFO For each of the following information items, please tell us how important it would be for you to have each of the following pieces of information available regarding a circulator service in the downtown Bellevue Core.

Q42 How important would it be for you to have schedules / timetables?

1 Not All Important
2 Not Very Important
3 Undecided
4 Somewhat Important
5 Very Important
6 Don't Know / REFUSED

Q43 How important would it be for you to have route information / maps?

1 Not All Important
2 Not Very Important
3 Undecided
4 Somewhat Important
5 Very Important
6 Don't Know / REFUSED

Q44 How important would it be for you to have information on fares / prices?

1 Not All Important
2 Not Very Important
3 Undecided
4 Somewhat Important
5 Very Important
6 Don't Know / REFUSED

Q45 How important would it be for you to have pass information?

1 Not All Important
2 Not Very Important
3 Undecided
4 Somewhat Important
5 Very Important
6 Don't Know / REFUSED

Q46 How important would it be for you to have someone to show you how to use the service?

1 Not All Important
2 Not Very Important
3 Undecided
4 Somewhat Important
5 Very Important
6 Don't Know / REFUSED

Q47 Where or how would you prefer to obtain this information? **[SELECT ALL THAT APPLY]**

1 By Mail
2 Telephone / Customer Service Line
3 Verbal Information – On Board Bus
4 Written Information – On Board Bus
5 At Bus Stop / Shelter
6 Phone Book / Yellow Pages
7 Internet / Web Site
8 Place Where Passes / Tokens Are Purchased
9 At School
10 At Work
11 Radio / TV Advertising
12 On My Utility Bill
13 At City Hall
14 Posters [Specify Where To See It]
15 Flyer [Specify Where To Receive It]
16 Other1 [Specify]
17 Newspaper
18 Bellevue Square
99 REFUSED

DEMOGRAPHICS

Finally, I have some background questions that will be used to help us analyze the results of the study.

Q48 Are you . . .

1 Male or
2 Female
9 REFUSED

Q49 Are you a registered voter in the state of Washington?

1 Yes
2 No
9 REFUSED

Q50 Do you have a valid driver's license?

1 Yes
2 No **[SKIPTO Q52]**
9 REFUSED

Q51 How many automobiles in working condition do you personally have available for your use?

__ ENTER NUMBER OF AUTOS
99 REFUSED

Q52 [IF BELLEVUE RESIDENT] Do you own or rent your current residence?

1 Own
2 Rent
9 REFUSED

Q53 What is your age?

__ Enter age in years
99 I would prefer to not answer this question

Q54 **[IF Q53 = 99]** If you prefer not to tell us your exact age, please choose the age category below for your age.

1 18 to 24,
2 25 to 34,
3 35 to 44,
4 45 to 54,
5 55 to 64, or
6 65 and older?
7 REFUSED
8 DO NOT HAVE AGE

Q55 Is your total annual household income above or below $30,000 per year?

1 Up To $30,000 Per Year
2 Over $30,000 Per Year
3 I would prefer to not answer this question

Q56 **[IF Q55 EQ 1]** Would that be....

1 Under $10,000,
2 $10,000 to $20,000, or
3 $20,000 to $30,000?
4 I would prefer to not answer this question

Q57 **[IF Q55 EQ 2]** Would that be....

1 $30,000 to $40,000,
2 $40,000 to 50,000,
3 $50,000 to 75,000,
4 $75,000 to $100,000? or
5 $100,000 and over
6 I would prefer to not answer this question

Q58 The City of Bellevue may be conducting future research on this topic. Is it all right to release your name and telephone number to the City for the purposes of future research? Please note that this information will in no way be connected to the responses you have provided today.

1 YES [ENTER FIRST NAME and PHONE NUMBER: _____]
2 NO / REFUSED

THANK That concludes our survey. Thank you very much for your time and the useful information you have provided us.

THANKAGE Thank you for your time. We appreciate your cooperation in agreeing to complete this survey. Today we are only interviewing individuals who are 18 years or older.

Appendix B

Market Research Results

MARKET SURVEY

A survey of downtown Bellevue residents and workers was a major element of the circulation study. This section describes the process and results of the survey, which was carried out by the Northwest Research Group.

- Determine interest and ridership of the circulator among downtown Bellevue office workers and residents.
- Measure likelihood of use among alternate groups.

Methodology

The market survey was carried out primarily through a web-based questionnaire. This section further describes the research methodology.

Research Design

The market research primarily involved a web-based survey of downtown Bellevue office workers and residents. The survey was carried out in mid-2000. Office workers and residents were screened to determine if they lived within the general proximity of the proposed route, that is within the area defined as downtown Bellevue - the area burdened by Main Street, NE 12th, 100th Ave NE, and 116th Ave NE.

The survey consisted of 307 interviews with residents and office workers of downtown Bellevue. The sample was provided through a multi-method recruiting effort consisting of intercepts in downtown office buildings, intercepts in other areas of downtown Bellevue, drop-boxes in apartment and condominium complexes, and random telephone recruiting. Interviews were conducted primarily via the web, although some also took place via telephone, walk-in and mail.

Questionnaire

The questionnaire contained approximately 58 questions. The questionnaire used a variety of question formats, including closed single and multiple-response questions for all categorical data. In those situations where not all responses were known, an "other" category was included. These results were then reviewed and, where appropriate, post-coded into the database. All attitude and evaluation questions used scaled response formats. Scales were typically five points in length. Two open-ended questions were included to provide further clarification of respondents' support for the downtown Bellevue circulator. Based on a review of these responses, a code list was developed to capture the range of responses. Results from these open-ended questions were then coded and entered into the respondent database.

The survey instrument contained the following major sections:

- Screening and introductory questions to determine worker or resident status.
- General transportation mode questions, including current use of transit and alternative modes for personal and to/from work travel.
- Initial support of the circulator proposal.

- Frequency of participation in a number of possible downtown Bellevue activities, current mode choice for completion of these activities, and likelihood to use the proposed circulator service for those activities..
- Preference for the type of vehicle used for the proposed service.
- A conjoint task to determine the importance of each product attribute in the decision process.
- Likelihood to ride current service to connect to the proposed circulator.
- Likelihood to use the current bus service if enhanced.
- Importance of information pieces and preference for delivery of information on the proposed service.
- Demographic characteristics.

The survey was administered using primarily a web-based interviewing technology. The web program automatically handled all skip and branching patterns.

Statistical Significance

In interpreting survey results, it should keep in mind that all surveys are subject to sampling error. Sampling error is the extent to which the results may differ from what would be obtained if the whole population were surveyed. The size of such sampling error depends completely on the number of interviews completed. The larger the sample, the smaller the sampling error.

The overall margin of sampling error under this survey for questions asked of all respondents is plus or minus 5.7 percent. The following table illustrates the error associated with different proportions at different sample sizes and can be used to determine sampling error for subgroup analysis.

Table 1: Error Associated With Different Proportions at Different Sample Sizes at the 95% Confidence Level

	Estimate				
Sample Size	10% 90%	20% 80%	30% 70%	40% 60%	50% 50%
50	8.3%	11.1%	12.7%	13.6%	13.9%
100	5.9%	7.8%	9.0%	9.6%	9.8%
200	4.2%	5.5%	6.4%	6.8%	6.9%
300	3.4%	4.5%	5.2%	5.5%	5.7%
400	2.9%	3.9%	4.5%	4.8%	4.9%
500	2.6%	3.5%	4.0%	4.3%	4.4%
1,000	1.9%	2.5%	2.8%	3.0%	3.1%
1,200	1.7%	2.3%	2.6%	2.8%	2.8%
2,400	1.2%	1.6%	1.8%	2.0%	2.0%

If a particular difference is large enough to be unlikely to have occurred due to chance or sampling error, then the difference is *statistically* significant. If results or numbers are different to the extent that the difference would matter from a managerial perspective, the difference is *practically* significant. To be *practically* significant, the difference must be

statistically significant. However, a *statistically* significant difference may not be *practically* significant.

Report Format

Extensive analysis of the data was completed. This report summarizes the major findings for each of the topics and provides an overview of respondents' answers as a whole as well as broken down by key subgroups.

The following notes describe the reporting conventions used in the report.

- The report is organized by major topic area. Tables and charts provide supporting data.

- Information about the overall results for each topic area is presented first, followed by relevant, statistically and practically significant differences between key subgroups. The probability level for determining statistical significance is < .05 (unless otherwise noted). When significant differences (assuming a 95 percent confidence level) are observed among important market segments (e.g., worker/resident, voting registration and income level, etc.), they are noted in the written text of the report and boldfaced in the accompanying tables.

- In most charts and tables, unless otherwise noted, column percents are used. Percents are rounded to the nearest whole number. Note that some percentages in this report may add up to more or less than 100 percent because of rounding, the permissibility of multiple responses for specific questions, or based on the presentation of abbreviated data.

- Except where noted, tables and charts provide information from respondents who offered opinions to a question. "Don't knows" and "refusals" are counted as missing values unless "don't know" is a valid or meaningful response. The "no answer" category is not included in the analysis generating the graphics.

- Complete documentation of the data analysis (in the form of banners) was provided to the City of Bellevue under a separate cover. These banners are useful in providing easy-to-use documentation of the results of all questions broken out for important subgroups of the sample – for example, workers vs. residents or among income categories. One set of banners was run providing insight into how important subgroups responded to each question.

Survey Results

The following summarizes the important findings from the survey. Charts and tables are used to highlight these findings.

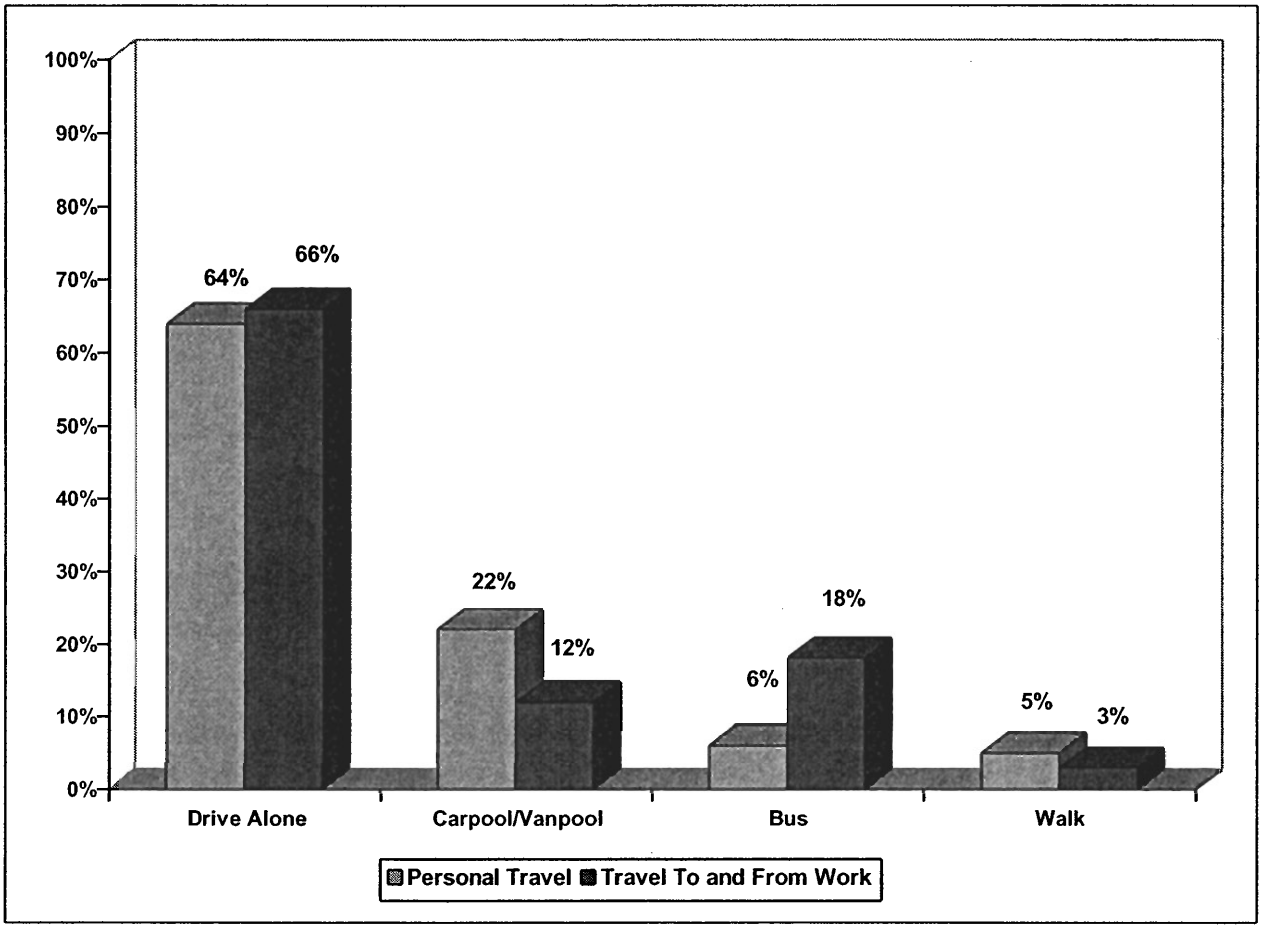
Current Mode Choice

Currently, the majority of respondents drive alone for both work trips and personal travel.

- Sixty-six percent of respondents drive alone to and from work, while 64 percent drive alone for their personal travel.

- Neither residents nor workers differ from the majority in their mode choice for work or personal travel. Seventy-three percent of residents drive alone to and from work, as do 61 percent of workers. An almost equal number from each group also ride the bus (20 percent residents and 21 percent workers) for their work travel.

Figure 2: Current Mode Choice



Bus Ridership

Bus ridership is high among downtown respondents.

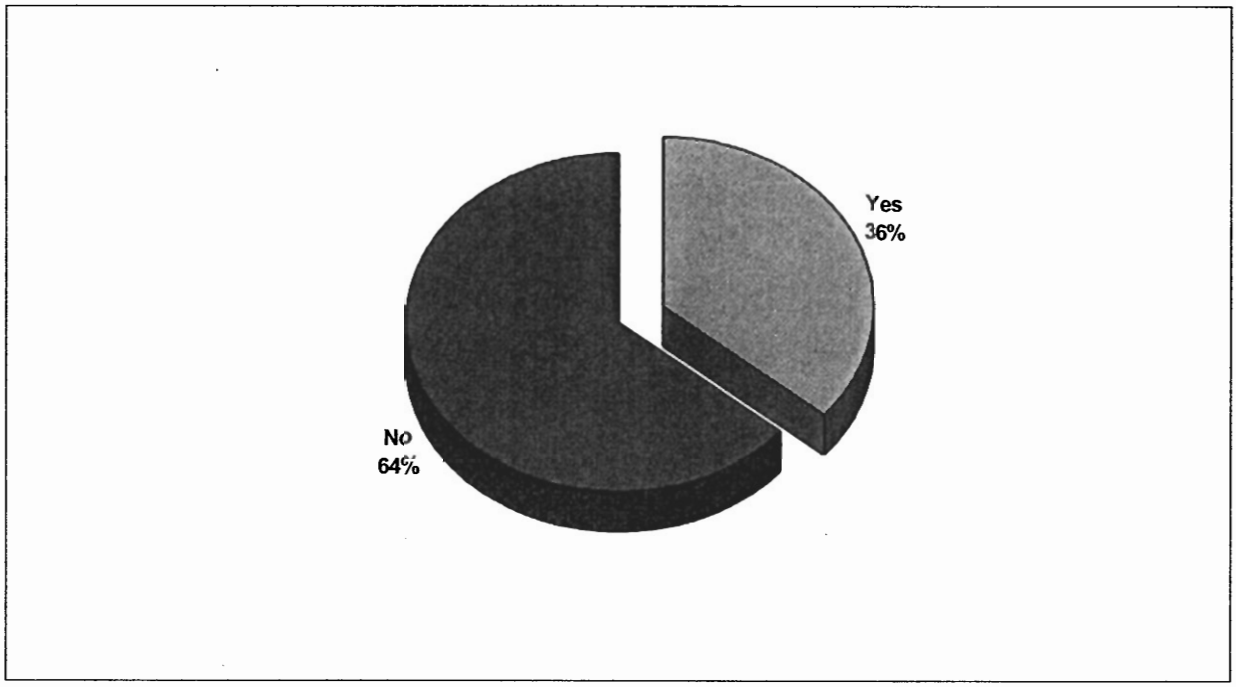
- Thirty-six percent of respondents had ridden a bus in the month preceding the survey. The average number of rides taken by respondents in the past month is 21.3.

- Workers and residents are almost equally likely to have ridden a bus in the past month; 38 percent of residents and 37 percent of workers have ridden a bus in the

past month. Workers average a higher number of rides per month (26.9 trips) than residents (12.3 trips).

- Of those who have ridden a bus in the past month, 44 percent have been riding the bus for more than five years.

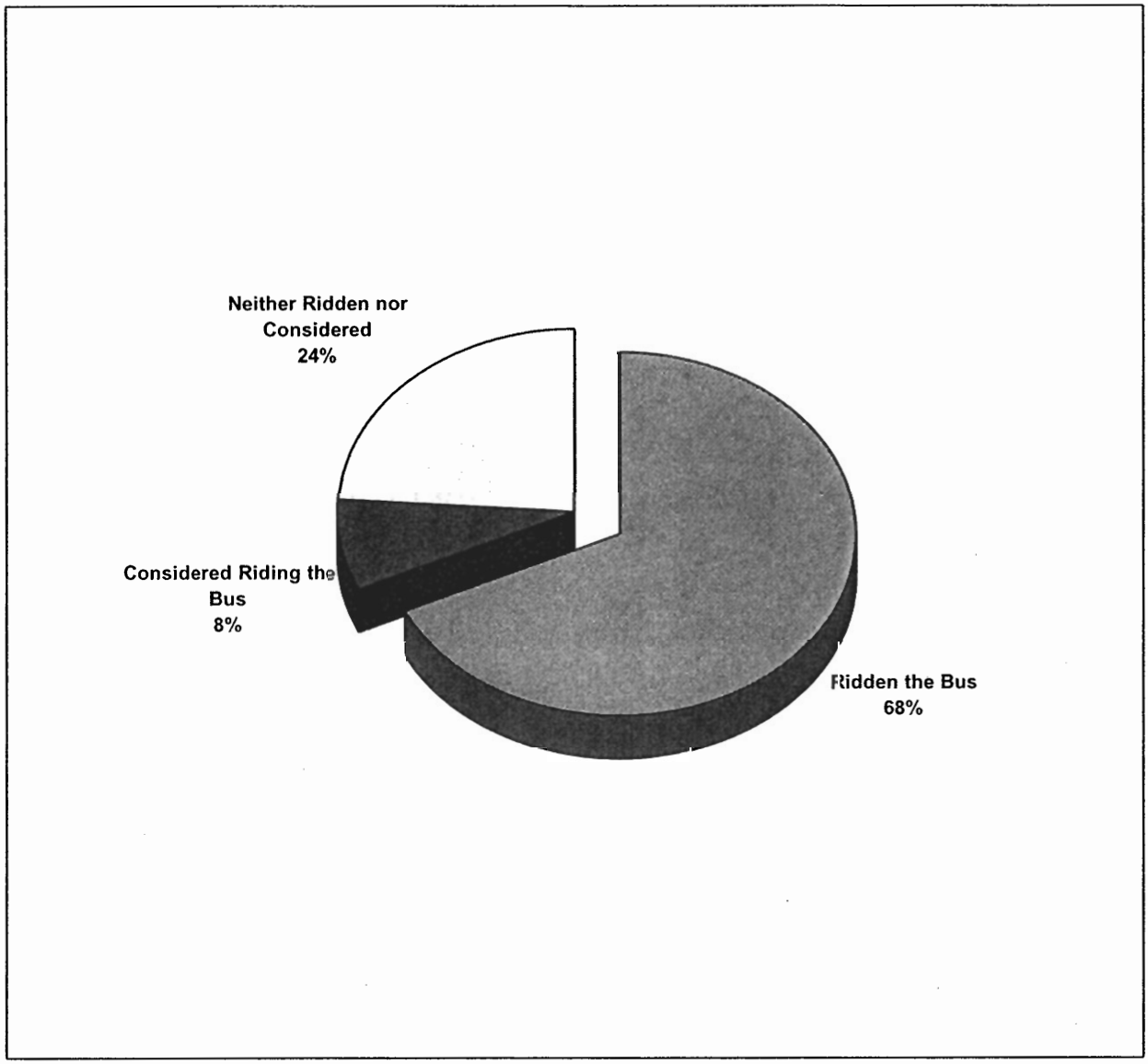
Figure 3: Bus Ridership



- When those respondents who had not ridden a bus in the past month were asked if they have ever ridden a bus, 68 percent yes, 8 percent have considered riding a bus, and 24 percent have neither ridden nor considered riding a bus.

- Respondents who have not ridden a bus – those who have considered riding and those who have neither ridden nor considered riding – were asked the main reason they haven't ridden a bus. Responses included: the bus is inconvenient and inflexible (60 percent); I don't need to take the bus (16 percent); I need my car for work (5 percent), and; the bus doesn't go where I need it to (4 percent).

Figure 4: Consideration of Bus Ridership



Travel in Downtown Bellevue

Respondents were asked to focus on their travel in and around downtown Bellevue and enter the amount of travel per week, mode used, and likelihood of using a potential circulator for a number of activities that could be accomplished within downtown Bellevue. Tables 2 and 3 provide information on travel patterns in downtown Bellevue. The following highlights key results.

- Residents are more likely than workers to indicate they would use the service for grocery shopping (22 percent compared to 7 percent very likely), eat dinner at restaurants in downtown Bellevue (12 percent compared to 4 percent very likely), go to the movies (20 percent compared to 5 percent very likely), and visit friends and family (10 percent compared to 2 percent very likely).

- Workers are more likely than residents to indicate they would use the service to go to work: 17 percent very likely compared to 8 percent.

- Respondents who both live and work in downtown Bellevue are more likely than workers to consider using the circulator to see movies in downtown Bellevue (17 percent compared to 5 percent). This group is more likely than those who live but do not work in downtown Bellevue to indicate they are somewhat likely to use the service to go to work in downtown Bellevue (19 percent compared to 3 percent).

Table 2: Travel in Downtown Bellevue — Residents

Type of Trip	Frequency of Travel (Times per Week)	Current Mode of Travel	Likelihood of Using Circulator Service
Grocery Shopping	5% None 24% Once 25% Twice 46% Three or more	52% Car 17% Carpool/Vanpool 1% Bus 26% Walk 0% Bike	22% Very Likely 24% Somewhat Likely 7% Undecided 18% Not Very Likely 28% Not at All Likely
Shopping at Bellevue Square	13% None 40% Once 18% Twice 30% Three or more	42% Car 10% Carpool/Vanpool 0% Bus 47% Walk 0% Bike	24% Very Likely 29% Somewhat Likely 6% Undecided 15% Not Very Likely 26% Not at All Likely
Eat lunch at downtown Bellevue restaurants	40% None 26% Once 13% Twice 17% Three or more	35% Car 28% Carpool/Vanpool 0% Bus 35% Walk 0% Bike	19% Very Likely 28% Somewhat Likely 8% Undecided 15% Not Very Likely 30% Not at All Likely
Eat dinner at downtown Bellevue restaurants	46% None 28% Once 10% Twice 17% Three or more	23% Car 55% Carpool/Vanpool 0% Bus 19% Walk 0% Bike	12% Very Likely 26% Somewhat Likely 8% Undecided 21% Not Very Likely 33% Not at All Likely
Go to bars and nightclubs in downtown Bellevue	92% None 4% Once 0% Twice 4% Three or more	38% Car 38% Carpool/Vanpool 0% Bus 25% Walk 0% Bike	4% Very Likely 3% Somewhat Likely 3% Undecided 13% Not Very Likely 76% Not at All Likely
Go to the library in downtown Bellevue	53% None 31% Once 6% Twice 10% Three or more	34% Car 11% Carpool/Vanpool 0% Bus 53% Walk 0% Bike	17% Very Likely 23% Somewhat Likely 5% Undecided 10% Not Very Likely 44% Not at All Likely
Go to the movies in downtown Bellevue	69% None 29% Once 2% Twice 0% Three or more	20% Car 40% Carpool/Vanpool 0% Bus 40% Walk 0% Bike	20% Very Likely 19% Somewhat Likely 3% Undecided 18% Not Very Likely 39% Not at All Likely
Visit friends and family in downtown Bellevue	75% None 11% Once 4% Twice 11% Three or more	60% Car 24% Carpool/Vanpool 0% Bus 12% Walk 0% Bike	10% Very Likely 8% Somewhat Likely 4% Undecided 15% Not Very Likely 63% Not at All Likely
Go to work in downtown Bellevue	86% None 1% Once 0% Twice 13% Three or more	50% Car 0% Carpool/Vanpool 8% Bus 8% Walk 0% Bike	8% Very Likely 3% Somewhat Likely 1% Undecided 5% Not Very Likely 83% Not at All Likely

Table 3: Travel in Downtown Bellevue -- Workers

Type of Trip	Frequency of Travel (Times per Week)	Current Mode of Travel	Likelihood of Using Circulator Service
Grocery Shopping	66% None 16% Once 8% Twice 11% Three or more	55% Car 14% Carpool/Vanpool 2% Bus 22% Walk 2% Bike	7% Very Likely 15% Somewhat Likely 7% Undecided 22% Not Very Likely 49% Not at All Likely
Shopping at Bellevue Square	27% None 39% Once 17% Twice 18% Three or more	42% Car 12% Carpool/Vanpool 4% Bus 39% Walk 1% Bike	23% Very Likely 25% Somewhat Likely 7% Undecided 16% Not Very Likely 29% Not at All Likely
Eat lunch at downtown Bellevue restaurants	19% None 24% Once 15% Twice 43% Three or more	13% Car 10% Carpool/Vanpool 2% Bus 71% Walk 3% Bike	19% Very Likely 22% Somewhat Likely 12%Undecided 24% Not Very Likely 24% Not at All Likely
Eat dinner at downtown Bellevue restaurants	72% None 16% Once 8% Twice 5% Three or more	32% Car 49% Carpool/Vanpool 2% Bus 15% Walk 2% Bike	4% Very Likely 12% Somewhat Likely 8% Undecided 27% Not Very Likely 49% Not at All Likely
Type of Trip	Frequency of Travel (Times per Week)	Current Mode of Travel	Likelihood of Using Circulator Service
Go to bars and nightclubs in downtown Bellevue	90% None 4% Once 2% Twice 4% Three or more	14% Car 50% Carpool/Vanpool 0% Bus 29% Walk 7% Bike	5% Very Likely 5% Somewhat Likely 6% Undecided 18% Not Very Likely 67% Not at All Likely
Go to the library in downtown Bellevue	76% None 15% Once 6% Twice 3% Three or more	51% Car 17% Carpool/Vanpool 3% Bus 26% Walk 3% Bike	15% Very Likely 14% Somewhat Likely 6% Undecided 21% Not Very Likely 45% Not at All Likely
Go to the movies in downtown Bellevue	78% None 17% Once 1% Twice 2% Three or more	21% Car 52% Carpool/Vanpool 10% Bus 17% Walk 0% Bike	5% Very Likely 5% Somewhat Likely 9% Undecided 15% Not Very Likely 66% Not at All Likely
Visit friends and family in downtown Bellevue	90% None 6% Once 1% Twice 2% Three or more	57% Car 36% Carpool/Vanpool 0% Bus 7% Walk 0% Bike	2% Very Likely 4% Somewhat Likely 6% Undecided 11% Not Very Likely 77% Not at All Likely
Go to work in downtown Bellevue	2% None 1% Once 1% Twice 96% Three or more	52% Car 21% Carpool/Vanpool 26% Bus 1% Walk 0% Bike	17% Very Likely 15% Somewhat Likely 9% Undecided 16% Not Very Likely 42% Not at All Likely

Support for the Circulator

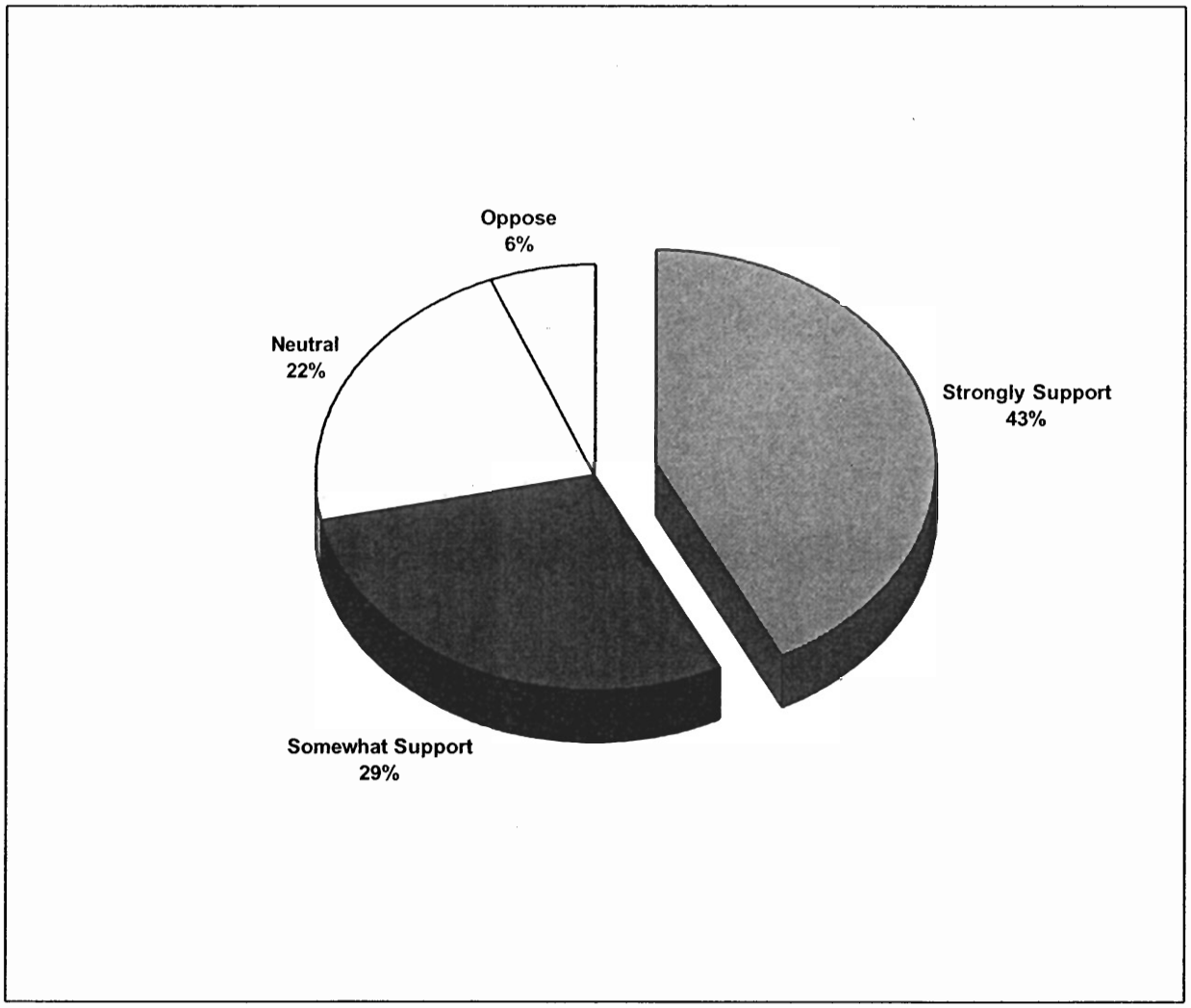
Respondents were presented with a brief description of the proposed circulator service and asked the extent to which they support the idea.

There is strong support for the concept of a downtown Bellevue circulator. More than two out of five (42 percent) respondents strongly support the idea; an additional 29 percent somewhat support the proposal.

- Support is strongest among Bellevue residents (57 percent strongly support), compared with those who just work in downtown Bellevue (31 percent strongly support).

- Residents are more likely to say that the service would be convenient for them to use (31 percent), while workers are more likely to indicate that the new service does not affect them (13 percent).

Figure 5: Support for Concept of Downtown Bellevue Circulator



Importance of Potential Circulator Attributes and Levels

The first step with conjoint is to calculate the importance of potential circulator features or *attributes* in the decision process. This is done by considering how much difference each attribute could make in the total utility of a product offering. That difference is the range in the attribute's utility values. These ranges are then percentages, obtaining a set of attribute importance values that add to 100. The following summarizes key results of the conjoint analysis:

By far the cost of service is the most important consideration.

- The cost of a one-way trip is by far the most important consideration (45 percent most important consideration).
- As would be expected the utility is highest for a free service. However, a fare of 25 or 50 cents also achieves an above-average utility value.
- Also important are the days the service operates (24 percent most important consideration).
- Respondents strongly prefer daily, both weekday and weekend service. However, limiting service to weekdays only also has a positive utility. A service limited to weekends only offers little utility.
- Surprisingly, frequency of service is less important than other attributes (10 percent most important consideration). Respondents are equally concerned with the time service ends in the evening (11 percent most important consideration).
- Relatively frequent service – every 5 or 10 minutes – has the highest utility.
- Providing service that extends into the evening hours, at least until 9 p.m., is important.
- The distance one must walk to the bus stop, the type of stop provided, and the time service starts in the morning are relatively unimportant attributes.
- Respondents are generally willing to walk two to three blocks to a bus stop to catch a downtown circulator.

Figure 6: Attribute Importance

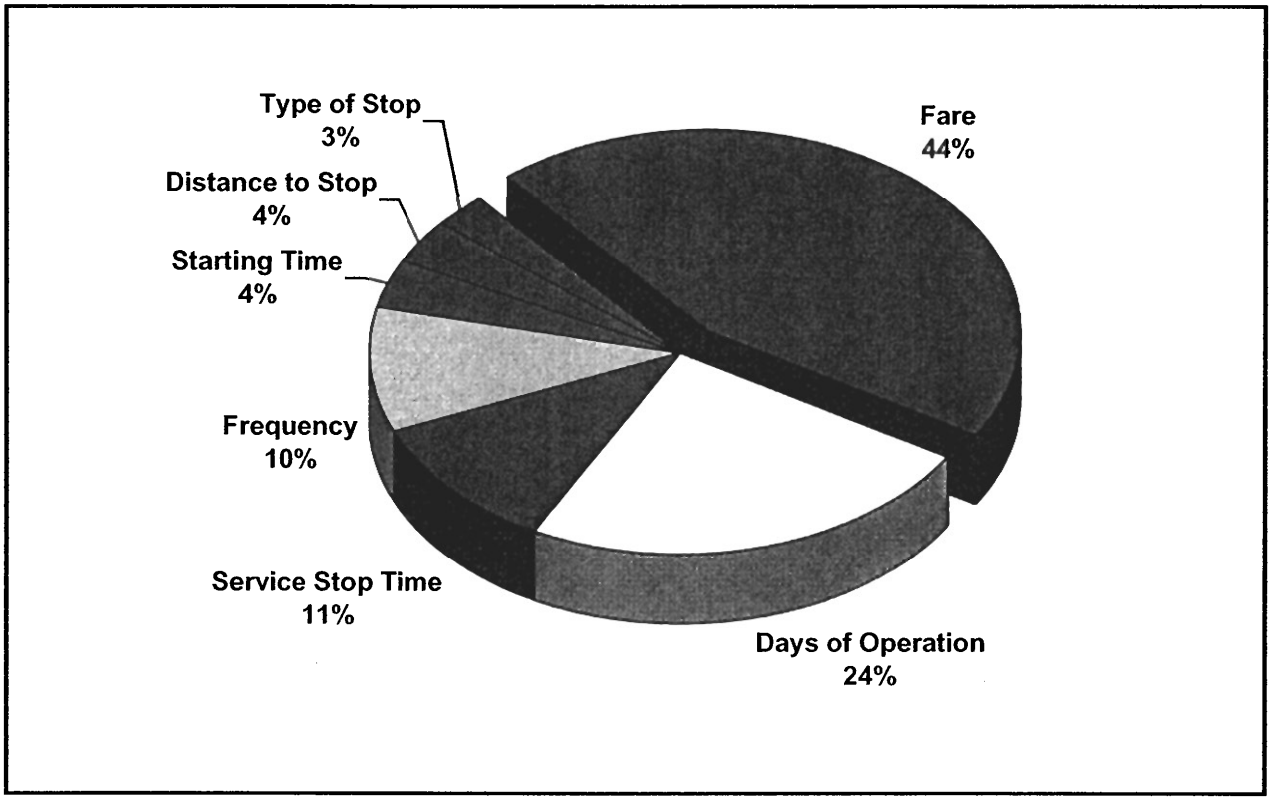


Figure 7: Level Importance

Attribute / Level	Utility
Fare	
Free	149.06
$0.25 / per ride	90.69
$0.50 / per ride	11.17
$0.75 / per ride	-33.05
$1.00 / per ride	-54.86
$1.25 / ride	-163.01
Days Service Operates	
Daily (weekdays and weekends)	78.07
Weekdays	14.27
Weekends	-92.34
Hours Service End	
12:00 a.m.	32.29
9:00 p.m.	26.27
6:00 p.m.	2.53
5:00 p.m.	-17.49
3:00 p.m.	-43.6
Frequency of Service	
Every 5 Minutes	28.56
Every 10 Minutes	26.54
Every 15 Minutes	6.14
Every 20 Minutes	-20.37
Every 30 Minutes	-40.87
Time Service Starts	
7:00 a.m.	10.43
8:00 a.m.	5.84
9:00 a.m.	0.31
10:00 a.m.	-16.58
Distance to Stop from Home / Work	
3 blocks	14.9
2 blocks	13.78
5 blocks	-7.73
1 block	-10.03
4 blocks	-10.92
Type of Stop	
Bus Stop	9.89
Passenger Shelter	-0.42
Bus Stop w/ Bench	-9.48

Vehicle Preference

Respondents were shown four possible options for circulator vehicles and asked to name their first and second choice preferences for the vehicle. The four vehicle choices were:

A B C D

Overall, respondents prefer Choice D, the trolley car vehicle, as their first choice in vehicles to operate in downtown Bellevue.

- However, the majority of residents (43 percent compared to 19 percent workers) prefer Choice B, while workers prefer Choice D (38 percent compared to 22 percent workers).

- Choice B was the option chosen by the majority (34 percent) of respondents as their second choice.

Figure 8: Vehicle Preference – First Choice

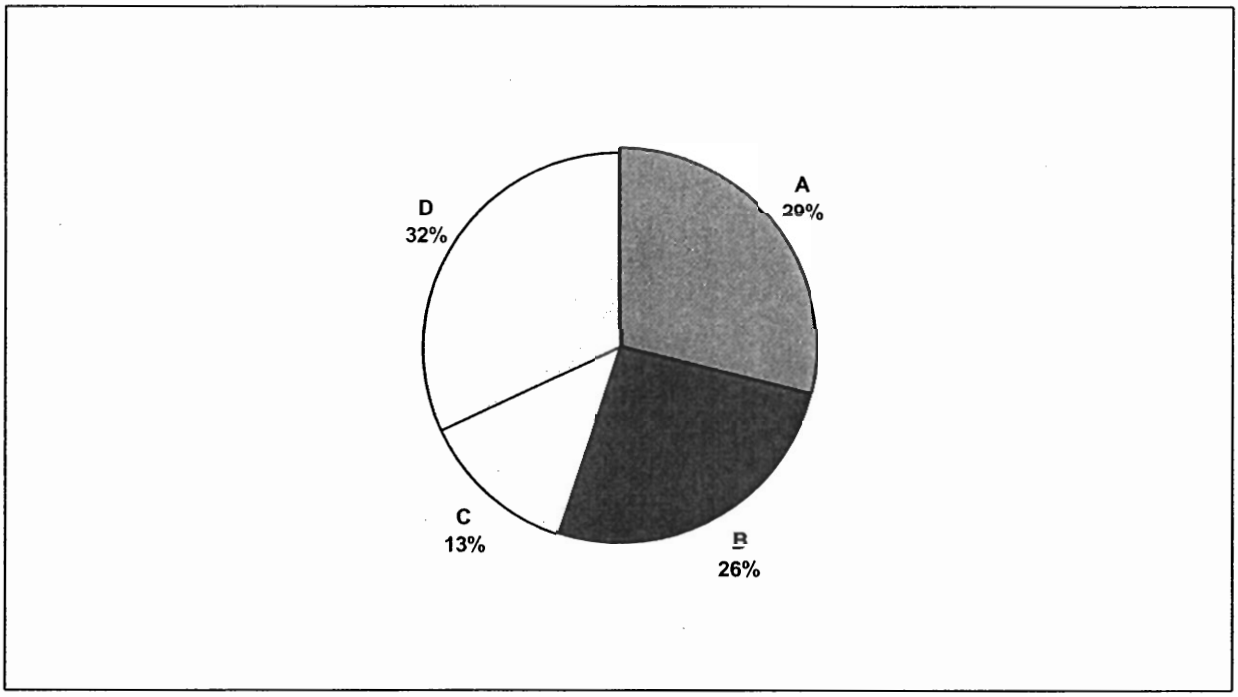
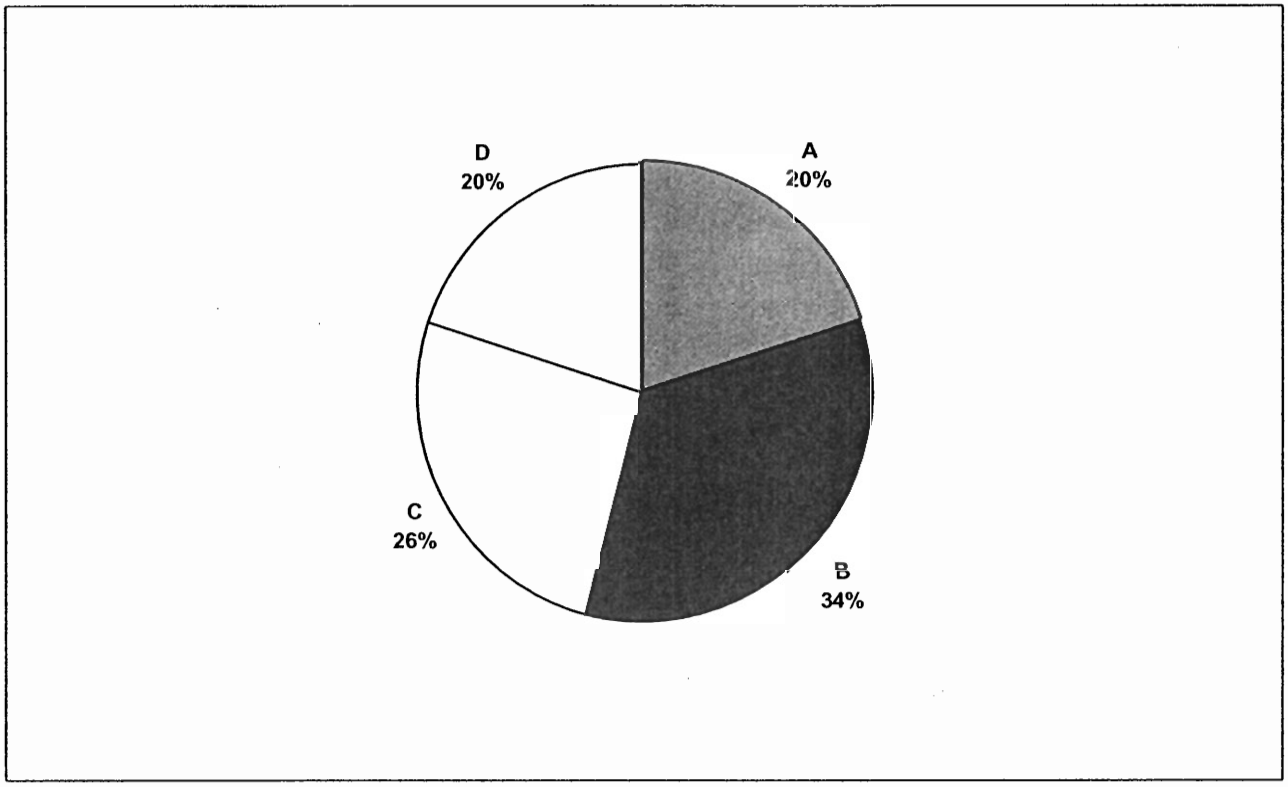


Figure 9: Vehicle Preference – Second Choice



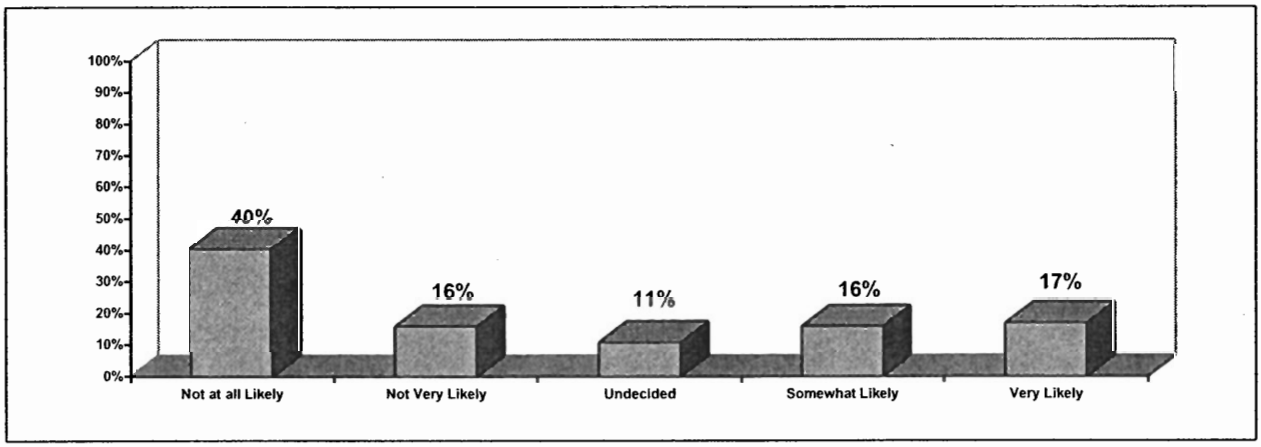
Connection To/From A Circulator

Respondents were asked to rate their likelihood of using King County Metro or Sound Transit buses to connect with the circulator.

The majority of respondents (40 percent) are not at all likely to use King County Metro or Sound Transit buses to connect to or from the circulator.

- Workers are more likely than residents (21 percent compared to 18 percent) to indicate they are very likely to use KC Metro or ST buses to connect to or from the circulator.
- Respondents who support the proposed service are much more likely than those who are neutral to the proposal to indicate they would use connecting services (21 percent compared to 10 percent).
- Renters are more likely than owners (21 percent compared to 12 percent) to indicate they are very likely to use connecting services.

Figure 10: Likelihood of Using KC Metro or ST Buses to Connect to or from Circulator



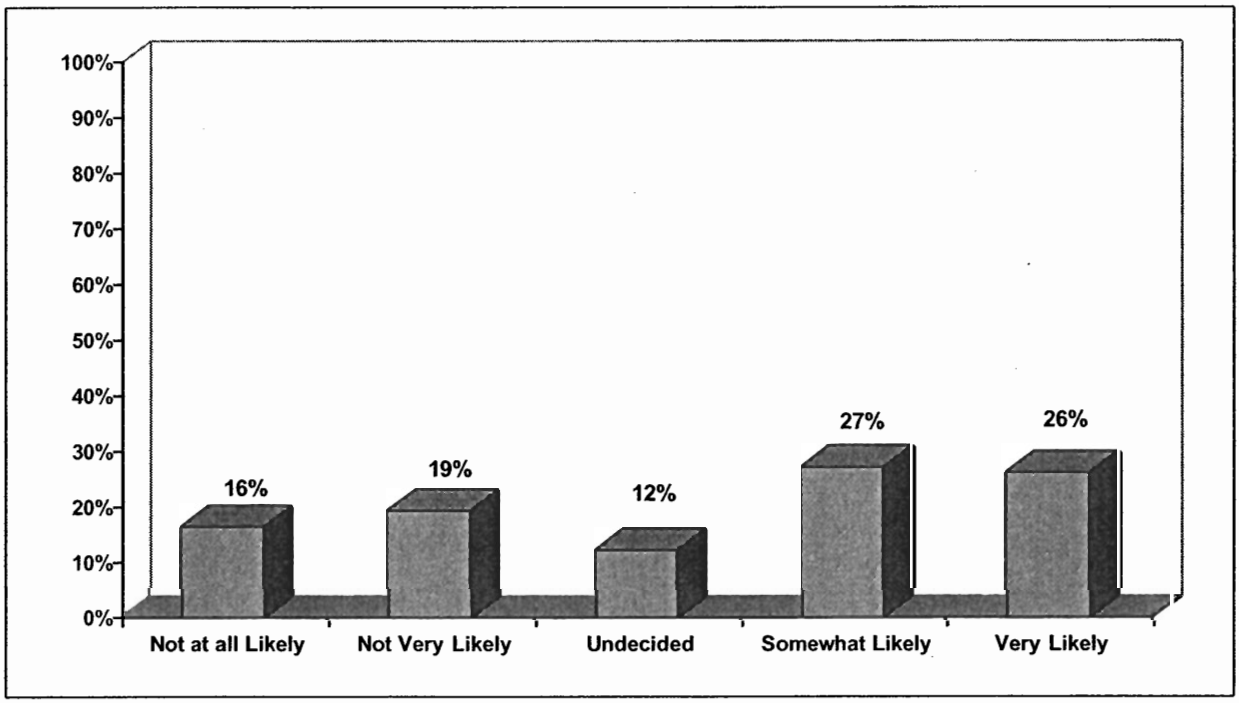
Respondents were also asked their likelihood of using the current bus service if free service were provided within the downtown Bellevue core.

Twenty–seven percent of respondents are somewhat likely to use the current bus service if free service were provided in downtown Bellevue, and 26 percent are very likely.

- Bus riders are more likely than non-riders to indicate they would use the current bus service (42 percent compared to 16 percent very likely).

- Renters are more likely than homeowners to indicate they are very likely to use the current service (32 percent compared to 19 percent).

Figure 11: Likelihood of Using Current Bus Service if Free



Importance of Circulator Information

Respondents were asked to rate the importance of several pieces of information related to the proposed circulator service.

Route information and maps are most important to respondents, followed by schedules and timetables, information on fares and prices, and pass information.

- As might be expected, respondents who use the bus as their main form of transportation to and from work are more likely than those who drive alone to place a high level of importance on the proposed circulator's schedules and timetables (mean of 4.51 compared to 3.97).
- Registered voters are more likely than respondents who are not registered to vote to indicate a high level of importance in having fare and price information (mean of 4.01 compared to 3.39).
- Respondents who support the circulator proposal rate all of the information pieces except having someone show them how to use the service higher in importance than respondents who are neutral in their support of the circulator.

Table 4: Importance of Information Pieces

	Total	Resident	Worker
Route Information / Maps	4.20	4.25	4.15
Schedules / Timetables	4.07	4.02	4.10
Fares / Prices	3.95	4.06	3.74
Pass Information	3.61	3.56	3.65
Someone to Show How to use Service	2.29	2.34	2.25

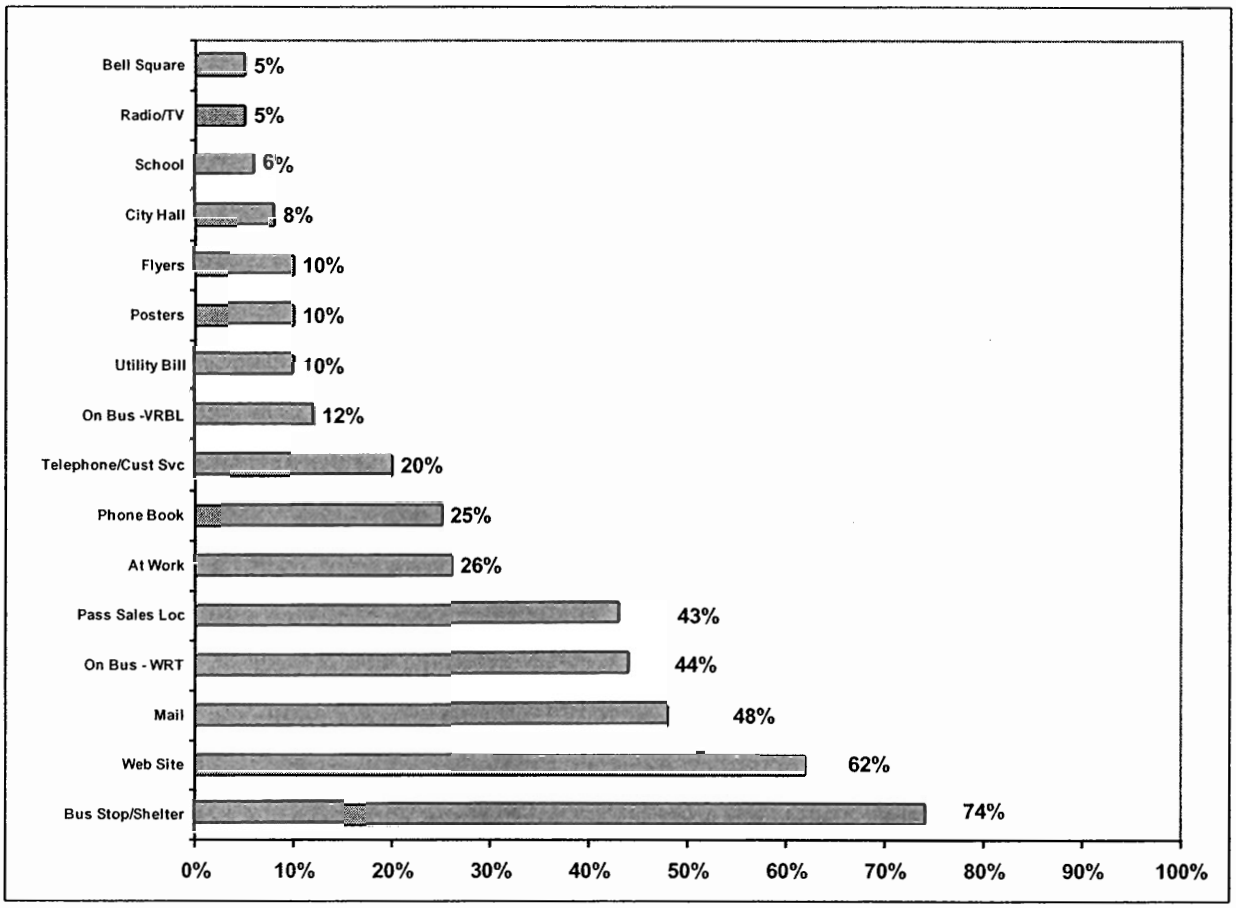
Information Delivery

Respondents were asked to indicate where or how they would prefer to obtain information on the proposed circulator service.

At a bus stop or shelter, on a web site, in the mail, on-board the bus in written form, and at pass-sales locations are all places respondents would like to see information on the proposed circulator.

- Workers are more likely than residents to indicate they would prefer to obtain information on the circulator at bus stops or shelters, on a web site, at work, or through a telephone/customer service line. Residents are more likely to indicate their preferences as in the mail, on their utility bill, or at Bellevue Square.

Figure 12: Preferred Information Delivery Methods



Appendix C

Conjoint Analysis

Conjoint Analysis

Conjoint analysis is a multivariate technique used specifically to understand how people develop preferences for products or services. It is based on the simple premise that consumers evaluate the value of a product or service (real or hypothetical) by combining the separate amounts of value provided by each attribute. The knowledge of the preference structure provided almost unlimited flexibility in examining reactions to a wide range of issues related to program development.

"Choice Based Conjoint" (CBC) was used for this study. CBC interviews closely mimic the purchase process for products in competitive contexts. Instead of rating or ranking product concepts, respondents are shown a set of products on the screen (in full-profiles) and asked to indicate which one they would purchase. As in the real world, respondents can decline to purchase in a CBC interview by choosing "None." If the aim of conjoint research is to predict product or service choices, it seems natural to use data resulting from choices.

The conjoint task consisted of comparing service offerings comprised of seven primary attributes: (1) frequency of service, (2) the distance one would have to walk to a bus stop, (3) the time service starts in the morning, (4) the time service starts in the evening, (5) the days service operates, (6) the amenities at the bus stop, and (7) the cost for a one way ride. Each attribute had different levels. The following table describes the attributes and levels.

Table 5: Attributes and Levels in Conjoint

Frequency of Service	Walking Distance To / From Stop	Service Starts	Service Ends	Days of Service	Cost
Every 5 minutes	1 block	7:00 a.m.	3:00 p.m.	Weekdays only	Free
Every 10 minutes	2 blocks	8:00 a.m.	4:00 p.m.	Weekends only	$0.10 / per ride
Every 15 minutes	3 blocks	9:00 a.m.	5:00 p.m.	Daily (weekdays and weekends)	$0.25 / per ride
Every 20 minutes	4 blocks	10:00 a.m.	6:00 p.m.		$0.59 / per ride
Every 30 minutes	5 blocks		7:00 p.m.		$0.75 / per ride
			9:00 p.m.		$1.00 / per ride
			10:00 p.m.		
			midnight		

Alternative Course Offerings

Importance of Attributes and Levels

The first step with conjoint is to calculate the importance of each product attribute in the decision process. We do this by considering how much difference each attribute could make in the total utility of a product offering. That difference is the range in the attribute's utility values. These ranges are then percentages, obtaining a set of attribute importance values that add to 100.

By far the cost of service is the most important consideration. .

- The cost of a one-way is by far the most important consideration – 45 percent most important consideration.
  - As would be expected the utility is highest for a free service. However, a fare of 25 or 50 cents also achieves an above-average utility value.
- Also important are the days service operates – 24 percent most important consideration.
  - Respondents strongly prefer daily – both weekday and weekend service. However, limiting service to weekdays only also has a positive utility. A service limited to weekends only offers little utility.
- Surprisingly, frequency of service is less important – 10 percent most important consideration. Respondents are equally concerned with the time service ends in the evening – 11 percent most important consideration.
  - Relatively frequent service – every 5 or 10 minutes – has the highest utility.
  - Providing service that extends into the evening hours – at least until 9:00 p.m. is important.
- The distance one must walk to the bus stop, the type of stop provided, and the time service starts in the morning are relatively unimportant attributes.
  - Respondents are generally willing to walk two to three blocks to a bus stop to catch a downtown circulator.

Figure 13: Attribute Importance

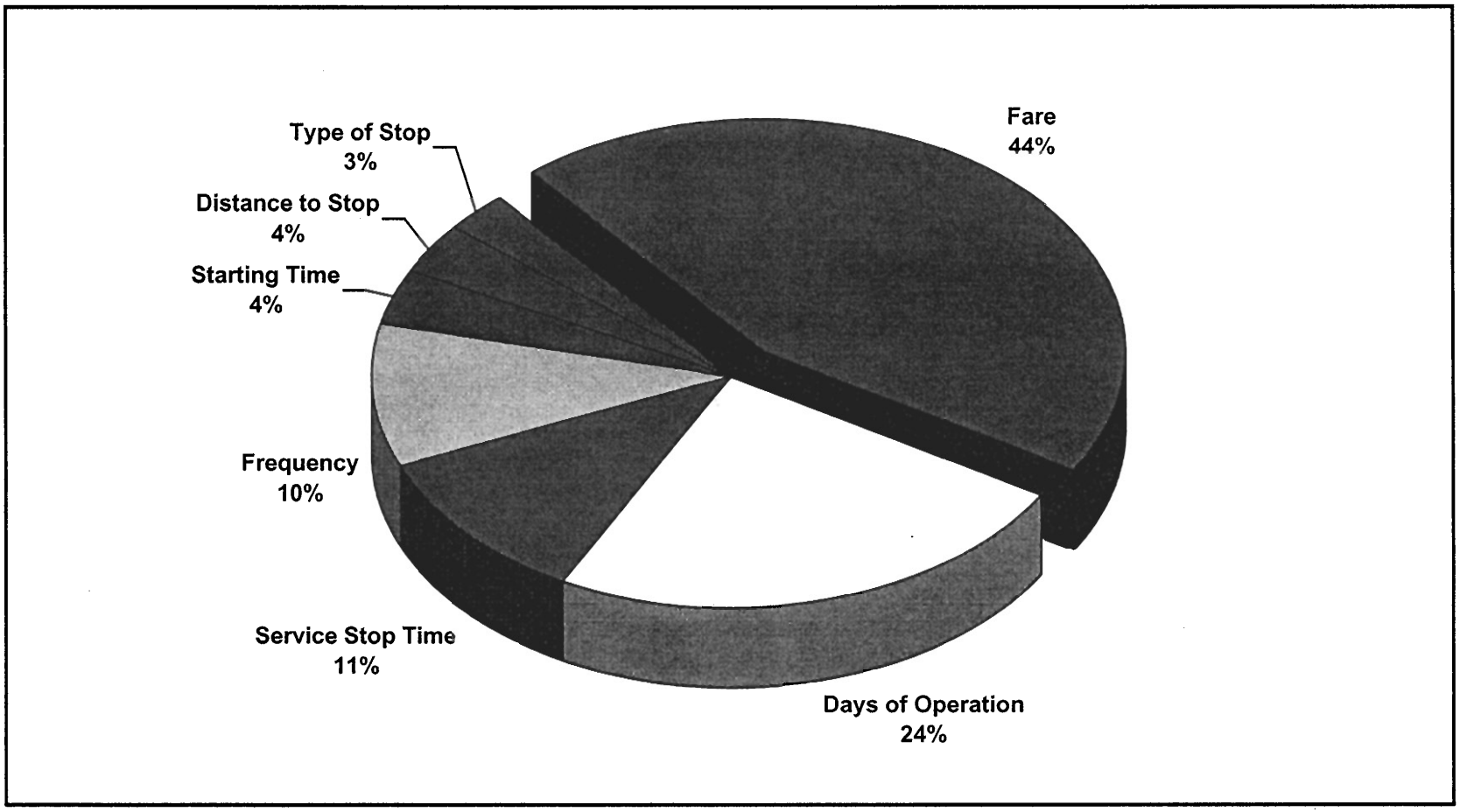


Figure 14: Level Importance

Attribute / Level	Utility
Fare	
Free	149.06
$0.25 / per ride	90.69
$0.50 / per ride	11.17
$0.75 / per ride	-33.05
$1.00 / per ride	-54.86
$1.25 / ride	-163.01
Days Service Operates	
Daily (weekdays and weekends)	78.07
Weekdays	14.27
Weekends	-92.34
Hours Service End	
Midnight	32.29
9:00 p.m.	26.27
6:00 p.m.	2.53
5:00 p.m.	-17.49
3:00 p.m.	-43.6
Frequency of Service	
Every 5 Minutes	28.56
Every 10 Minutes	26.54
Every 15 Minutes	6.14
Every 20 Minutes	-20.37
Every 30 Minutes	-40.87
Time Service Starts	
7:00 a.m.	10.43
8:00 a.m.	5.84
9:00 a.m.	0.31
10:00 a.m.	-16.58

Attribute / Level	Utility
Distance to Stop from Home / Work	
3 blocks	14.9
2 blocks	13.78
5 blocks	-7.73
1 block	-10.03
4 blocks	-10.92
Type of Stop	
Bus Stop	9.89
Passenger Shelter	-0.42
Bus Stop w/ Bench	-9.48

Simulations

Conjoint allows the ability to simulate what is likely to happen with different product offerings. The simulator is used to convert raw utility (part-worth) data into something much more managerially useful – simulated market choices. Alternative product offerings can be introduced within a simulated market scenario and the simulator reports the percent of respondents projected to choose or prefer each. The market simulator allows us to conduct "what-if" scenarios to investigate issues such as new product design, product positioning, and pricing strategy.

A conjoint study leads to a set of utilities (part-worths) that quantify respondents' preferences for each level of each attribute. These utilities can be analyzed in a number of ways. At its most basic level, the model is an additive function. For example, in this study we found the following utilities for two of the attributes in the study:

Attribute / Level	Utility
Frequency of Service	
Every 10 minutes	26.54
Every 15 minutes	6.14
Days of Operation	
Weekdays Only	14.27
Daily (weekdays and weekends)	78.07

Using these values and making the assumption that one respondent had exactly these utilities, we could predict how a respondent would choose between two options. In this case, the respondent would clearly prefer Option 2.

		Total Utilities
Every 10 minutes (26.54 utilities)	Weekdays Only (14.27 utilities)	40.81 utilities
Every 15 minutes (6.14 utilities)	Daily Service (78.07 utilities)	84.21 utilities

These simulations can be conducted under several models. The following simulations use Share of Preference model Corrected for Similarities. The Share of Preference model assumes that an individual does not always choose the product offering that offers the greatest utility. Instead, this model estimates the probability of choosing a simulated product, arriving at a "share of preference" for the product. This is done by (1) subjecting the respondent's total utilities for the product to the exponential transformation and (2) rescaling the resulting numbers so they sum to 100.

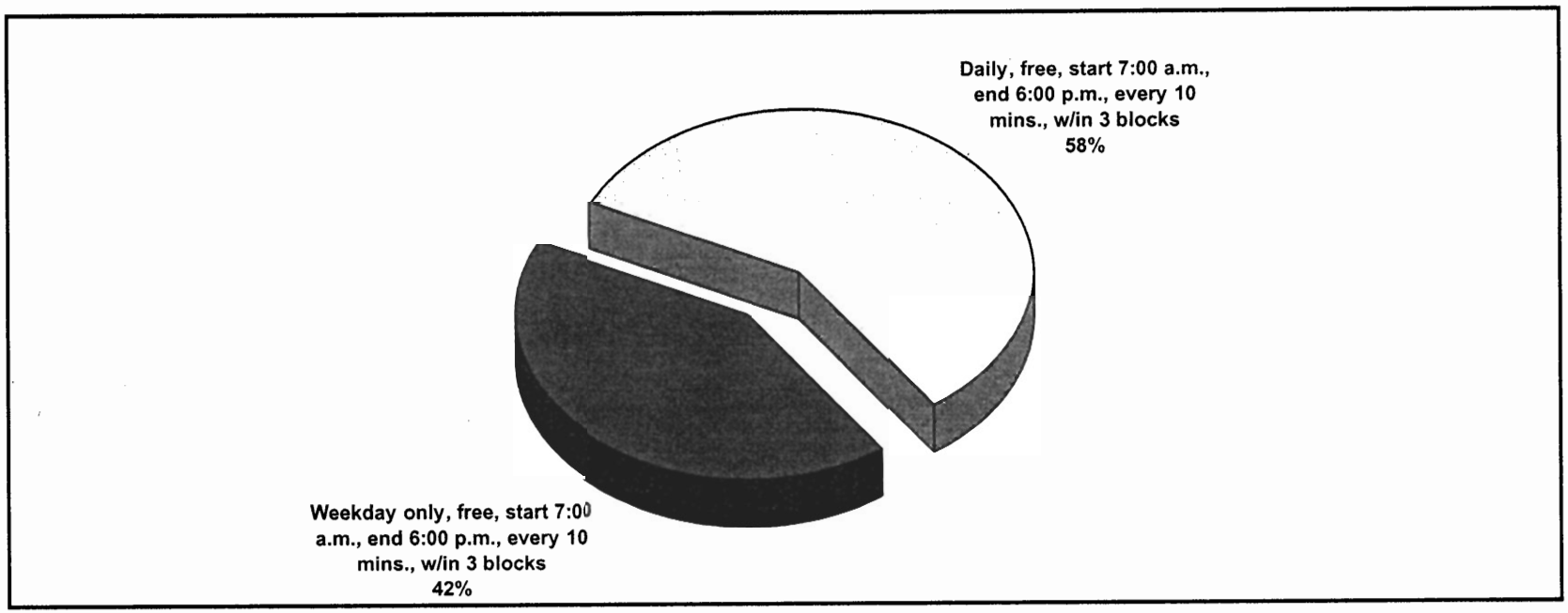
Alternative Product Offerings

The first simulation compares two product offerings, assuming the following attributes and levels of attributes.

Option #1	compared with	Option #2
Operating weekdays only		Operating daily (weekdays and weekends)
Free service		Free service
Service starts at 7:00 a.m.		Service starts at 7:00 a.m.
Service ends at 6:00 p.m.		Service ends at 6:00 p.m.
Operates every 10 minutes		Operates every 10 minutes
Route within 3 blocks		Route within 3 blocks

- Respondents clearly prefer option #2 – service that operates daily.

Figure 15: Share of Preference for Daily versus Weekday Only Service



Alternative Daily Service Offerings

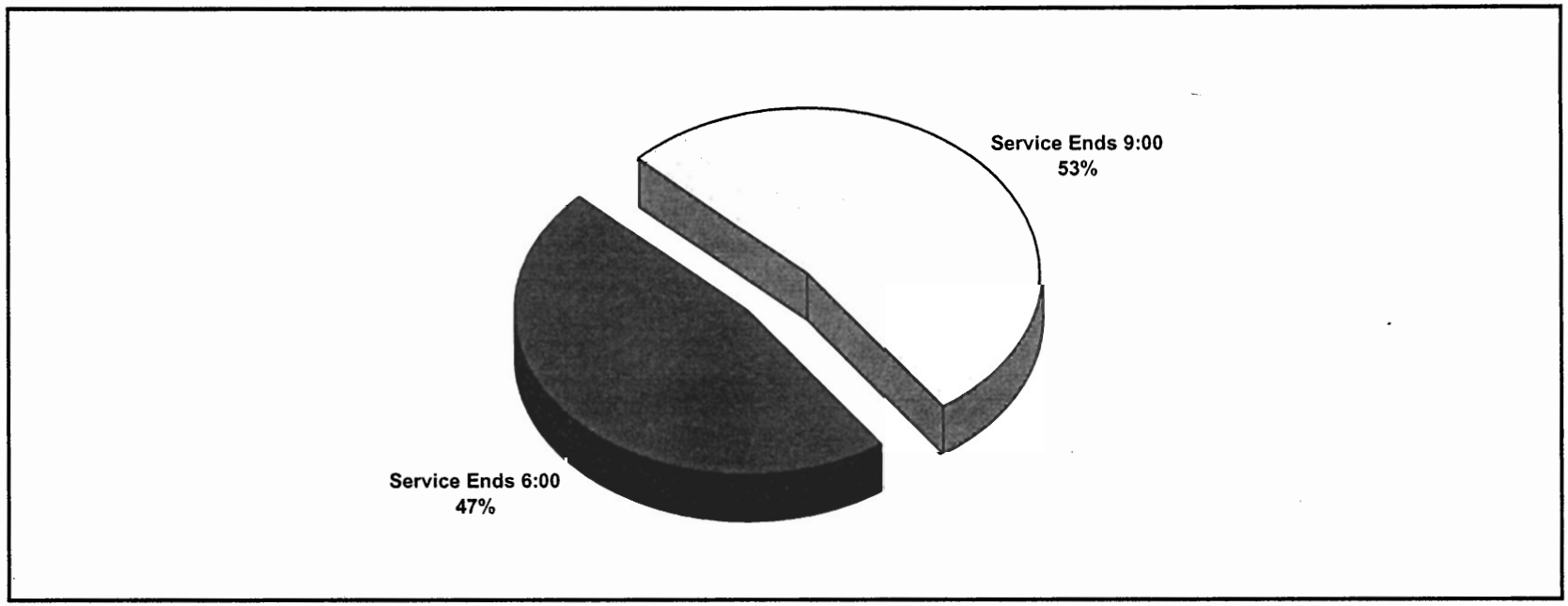
Given the strong preference for daily service, the remaining simulations focused on different daily service alternatives. Price, days of operation, and distance to bus stop are held constant in all cases. Only hours of operation, and starting and ending times are varied. In this first scenario, the impact of changing the ending time of the service is explored.

Service ends at 6:00 p.m.
Service starts at 7:00 a.m.
Operates every 10 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

Service ends at 9:00 p.m.
Service starts at 7:00 a.m.
Operates every 10 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

- Respondents clearly prefer option #2 – service that operates later into the evening until 9:00 p.m.

Figure 16: Share of Preference Different Ending Times



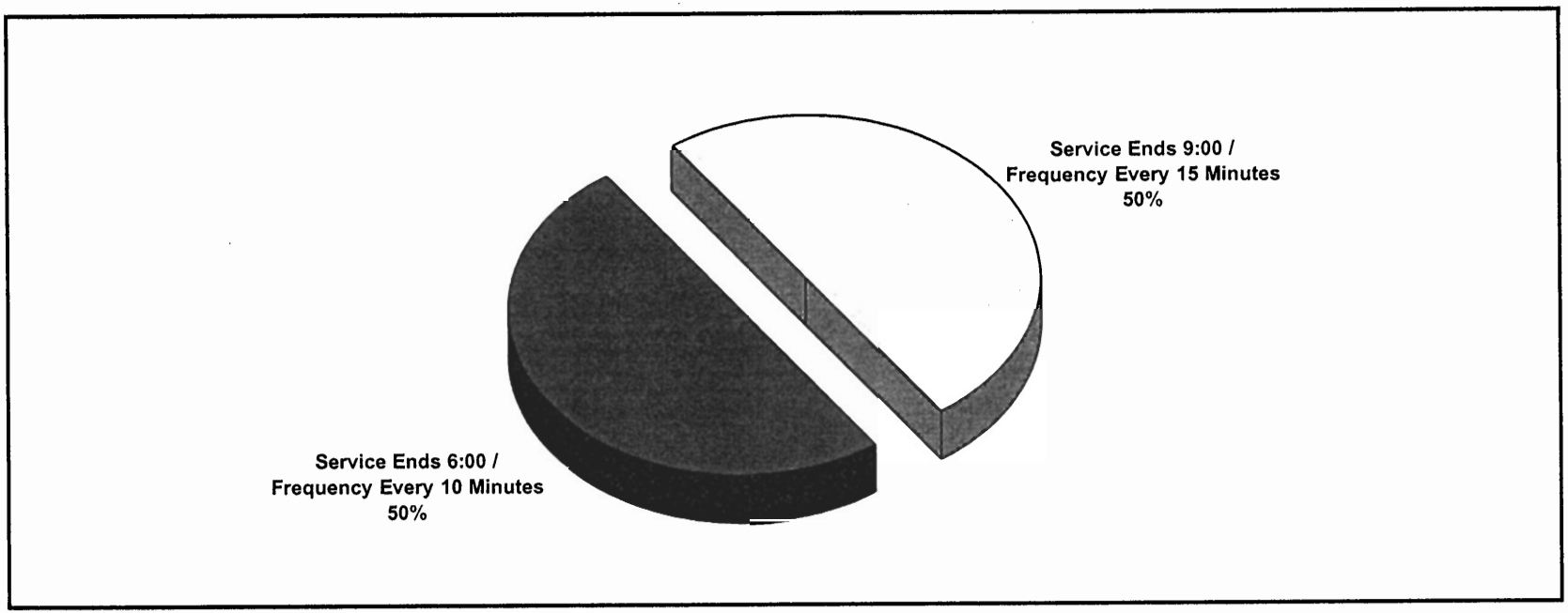
In this second scenario, the impact of changing the ending time of the service and the frequency of service is explored.

Service ends at 6:00 p.m.
Service starts at 7:00 a.m.
Operates every 10 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

Service ends at 9:00 p.m.
Service starts at 7:00 a.m.
Operates every 15 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

- In this case, preference is nearly equal, suggesting that people are willing to tradeoff frequency of service for a longer span of service throughout the day. One possibility for service would be to provide more frequent service during the day – until 6:00 p.m. – and less frequent service between 6:00 and 9:00 p.m.

Figure 17: Share of Preference Different Ending Times and Frequencies



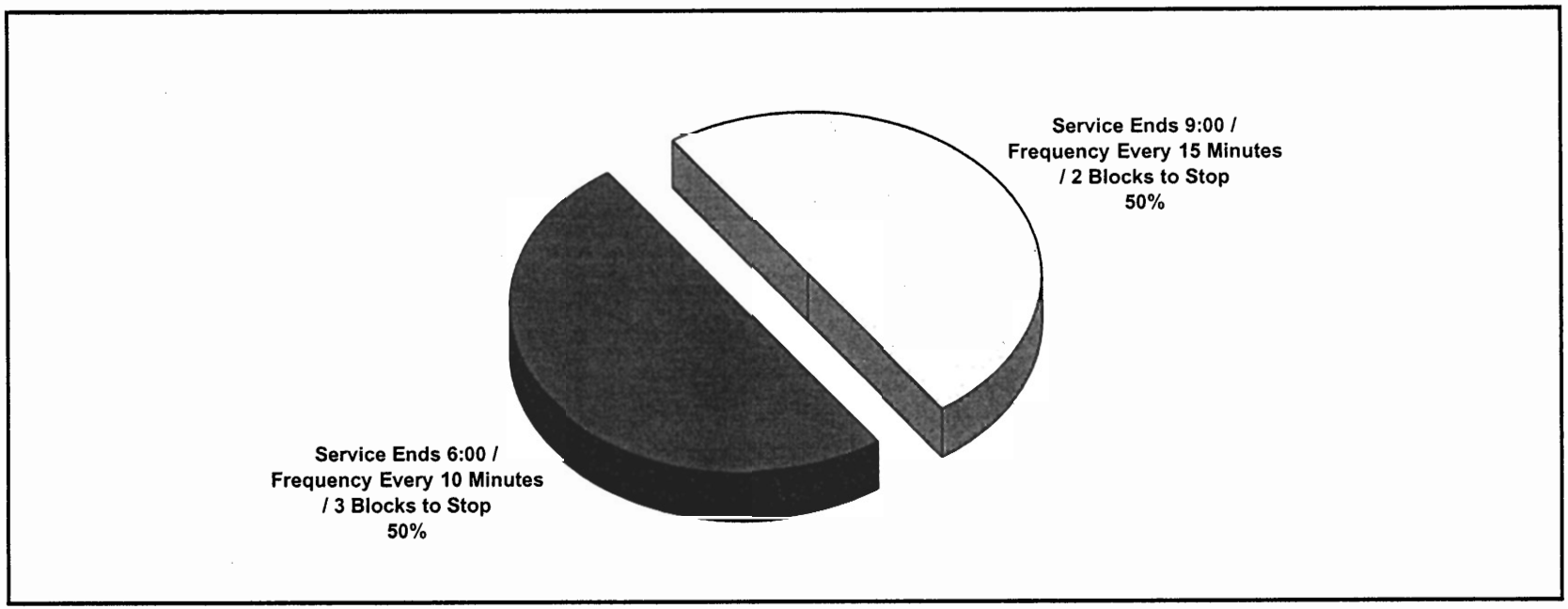
In this third scenario, the impact of changing the ending time of the service, the frequency of service, and the distance to the stop is varied.

Service ends at 6:00 p.m.
Service starts at 7:00 a.m.
Operates every 10 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

Service ends at 9:00 p.m.
Service starts at 7:00 a.m.
Operates every 15 minutes
Free service
Operating daily (weekdays and weekends)
Route within 2 blocks

- Shortening the distance to a bus stop has little impact on preference. That is, respondents place little value on the distance to the bus stop.

Figure 18: Share of Preference Different Ending Times, Frequency, and Distance to Stop



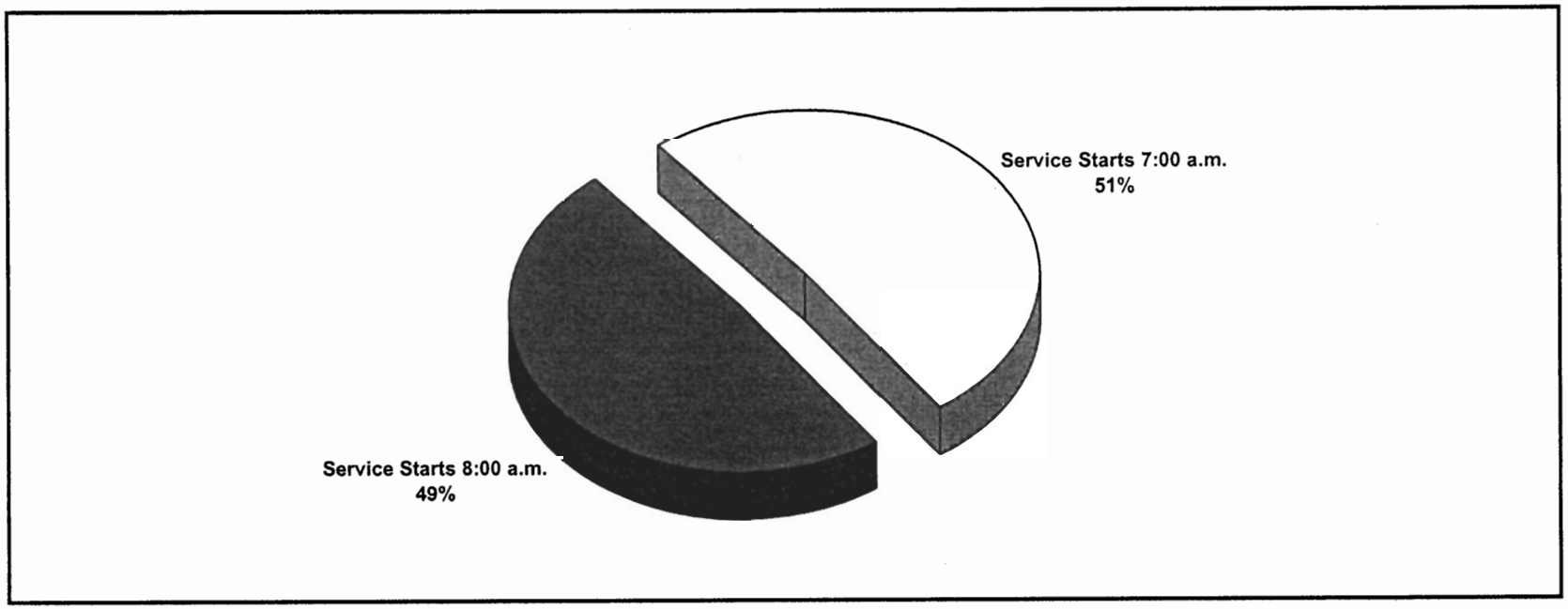
In this fourth scenario, the impact of changing the starting time of the service is explored.

Service ends at 9:00 p.m.
Service starts at 7:00 a.m.
Operates every 15 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

Service ends at 9:00 p.m.
Service starts at 8:00 a.m.
Operates every 15 minutes
Free service
Operating daily (weekdays and weekends)
Route within 3 blocks

- Changing the start time of service has little impact on preference, suggesting that it would be possible to start service later in order to extend service into the evening hours. In fact if service didn't start until 9:00 a.m., the share of preference for these two scenarios is not changed significantly.

Figure 19: Share of Preference Different Starting Times

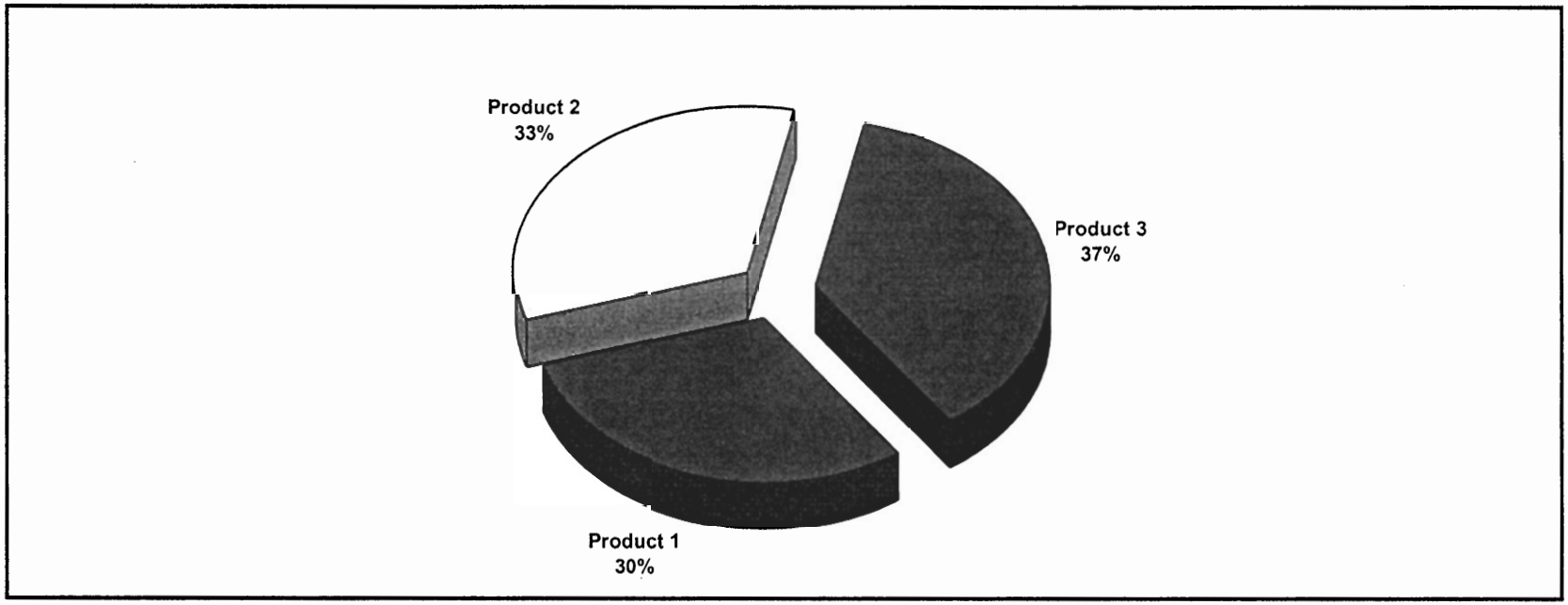


In this final scenario three different product offerings were explored.

	Product 1	Product 2	Product 3
Service Starts	7:00 a.m.	8:00 a.m.	9:00 a.m.
Service Ends	9:00 p.m.	9:00 p.m.	9:00 p.m.
Frequency of Service	Every 20 minutes	Every 15 minutes	Every 10 minutes
Days of Operation	Daily	Daily	Daily
Distance to Stop	3 blocks	3 blocks	3 blocks
Cost	Free	Free	Free

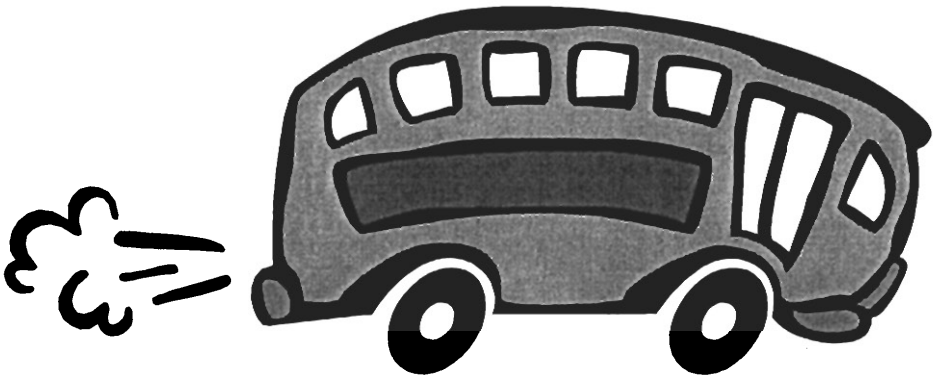
- Respondents prefer service operating daily between 9:00 a.m. and 9:00 p.m. with service every 10 minutes. Frequency of service is more important than starting times. Therefore, it is possible to shorten the span of service in order to maintain higher frequencies of service.

Figure 20: Share of Preference Different Starting Times



Appendix E:

City of Bellevue Transportation Department Implementation Plan



Appendix E

City of Bellevue Transportation Department
Implementation Plan

Implementation Plan components include:

- Conduct annual Population and Employment Projections (PCD)
- Compare Population and Employment Projections with our targets
- When the City approaches or reaches those numbers, re-survey downtown residents to determine support and needs
- Assess transit needs based on current downtown transit service
- Review downtown land use for emerging key destinations and connections – compare with CAC recommended destinations
- Work with Metro Transit to review route, marketing, and cost
- Possibly reconvene a CAC to confirm route, vehicle design/marketing
- Evaluate new opportunities for funding including new grants, Metro Transit service hours allocation, etc.
- Present proposal to City Council for implementation and funding