

10th, 11th, and 12th Avenues South: Planning & Transportation Study



THE CITY OF
CALGARY

*This information package is a working document and will be updated throughout the Study process.
The most recent update occurred on 2003 August 14.*

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Introduction

As part of the ongoing implementation of the Inner City Transportation System Management Strategy (ICTS), The City of Calgary has initiated the 10th, 11th, & 12th Avenue S Planning & Transportation Study.

1.0 City Council's Instructions

This study is being undertaken in accordance with the following ICTS recommendations, approved by City Council in July 2000:

1. "That the Administration be instructed to undertake a Transportation System Management study of the conversion of 11 and 12 Avenues SW back to a two-way system in consultation with affected stakeholders and report the results to Council through the Transportation, Transit and Parking Committee.
2. That a study be undertaken regarding the feasibility of achieving a full through movement east/west at 14 Street and 10 Avenue SW.
3. The study will make its recommendations based on the overall planning merit of the conversion as this is a situation when issues of network, mobility, local mobility and achieving important planning objectives are inseparable. Accordingly, the Terms of Reference for the study should utilize and address the analysis recommendations of the Technical Review Panel as a guiding framework.
4. That the City and community embrace an ongoing commitment to establish and maintain a balance between community quality of life and safe and acceptable mobility for road users."



2.0 The Planning Context

The ICTS examines Calgary's inner city transportation network and makes recommendations in order to achieve planning objectives established in the Calgary Transportation Plan. Both provide a context for the 10th, 11th and 12th Avenue Planning and Transportation Study.

11th and 12th Avenues were changed from two-way to one-way operation in the 1960s. This one-way couplet was to become an integral part of the proposed South Downtown By-pass that would connect Crowchild Trail on the west to Blackfoot and Deerfoot Trails on the east. In 1995, City Council abandoned the South Downtown By-pass concept when it approved the CTP. The ICTS recommendation to review changing 11th and 12th Avenues back to two-way traffic has occurred, in part, as a response to the elimination of the proposed By-pass.

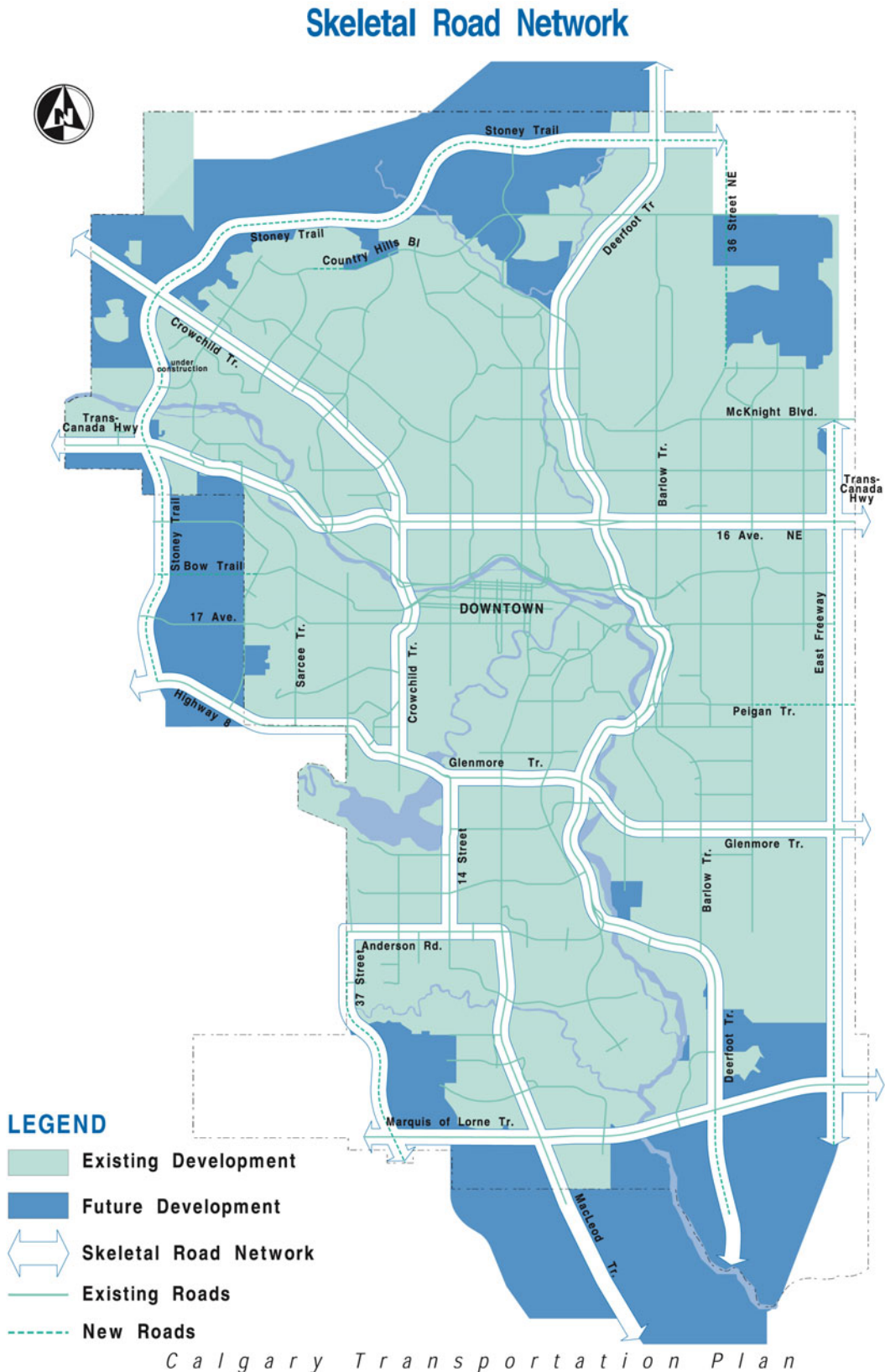
2.1 The Calgary Transportation Plan

The Calgary Transportation Plan (CTP) was approved by City Council in May 1995, following an extensive public participation and technical process that is commonly referred to as GO PLAN. The CTP establishes a city-wide transportation network and land use plan that would provide for Calgary's future growth up to 1.25 million people.

The CTP attempts to maintain a balance between three competing forces: mobility, cost/affordability, and quality of life. As part of the strategy, the CTP anticipates significant increases in Downtown employment and Downtown/ Inner City population. The CTP calls for the initiation of an inner city transportation study for the following reasons:

“Maintaining healthy and vibrant communities capable of adapting to change, and attracting a reasonable share of growth is a key thrust of the proposed land use strategy. In order to achieve the forecast levels of growth in established communities, the impact of the road hierarchy, its operation and adjacent land uses...should be reviewed. There are aspects of the existing hierarchy (e.g. widening setbacks, reverse lanes, road classifications, etc.) that may be at odds with community objectives related to quality of life and the ongoing viability of local businesses adjacent to roadways. These have to be considered in the context of city-wide goals as expressed in the Calgary Transportation Plan; however, it is recognized that attracting growth into existing communities is just as dependent on certainty, and quality of environment as it is in the new suburbs.”

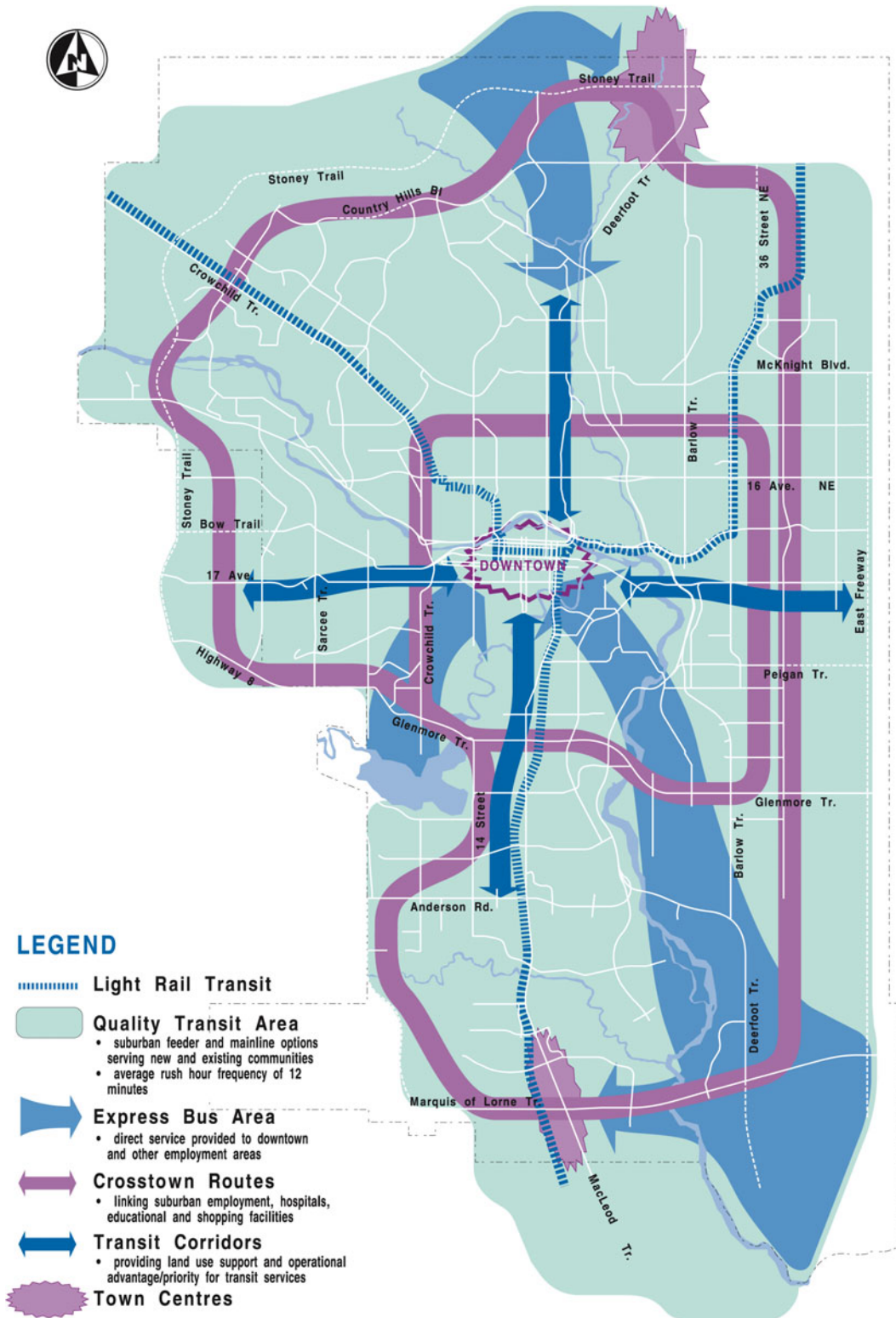
Fig. 3 Skeletal Road Network Map



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Fig. 4 Transit Network Map

Transit Network



Calgary Transportation Plan

2.2 The Inner City Transportation Study

The ICTS public participation process identified a number of important planning issues, including the following:

- People want to preserve the quality of their community and their environment.
- Business operators want to ensure that existing commercial areas remain viable.
- People want to improve the network for cyclists and pedestrians.
- People want to get into and out of the downtown area without experiencing major delays.
- People recognize the need to implement the transit priorities identified in the CTP.
- Both transit users and motorists who share the roads with transit want the bus and C-Train system to operate as efficiently as possible.
- People want to address the deficiencies of the existing roadway network.

The ICTS created a hierarchy of roads within the Inner City. The hierarchy describes the role and function of Inner City roads. It also provides guidance concerning each road's future operation.

10th, 11th, and 12th Avenues are classified as secondary routes in the ICTS. These are main routes that serve local demands and have a fairly high level of through traffic. The ICTS recognized the importance of:

- Retaining effective operation of these roadways, and
- The need to encourage their continued use as major arteries to minimize shortcutting through adjacent residential communities.

The ICTS also acknowledges that:

“The conversion of existing one-way streets to two-way operation offers potential advantages particularly from land use, community environment and local circulation pattern perspectives.”

The ICTS identifies 11th and 12th Avenues as roads where a change to two-way traffic should be considered. Initial analysis conducted at the time suggested that changing 11th and 12th Avenues to two-way traffic:

- Would have no significant impact relative to mobility,
- That local circulation would be enhanced by the change to two-way traffic, but also noted,
- That some intersections “may be problematic from an operational perspective as the access, egress and turning movement has developed around a one-way system...”

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10, 11 & 12 Avenue SW from 19 Street SW to 4 Street SE

Land Use And Planning Context

These corridors extend throughout the area more commonly known as the South Downtown/Warehouse District. The South Downtown comprises one of the more diverse land use contexts within the city at large. Today (2000) 12,000 people work there and over 2,000 people live there; as a result a more diverse range of services is also evolving throughout the area. The downtown core to the north and the high density Connaught residential district to the south are major influences on this environment.

Mobility

The conversion of 11 and 12 Avenues from two-way to one-way streets occurred during the 1960's along with the conversion of several roads in the downtown north of the tracks. These one-way roads became an integral component of the proposed South Downtown By-Pass, which was proposed to connect to Crowchild Trail on the West and Blackfoot Trail and Deerfoot Trail on the East. In 1995, City council abandoned the South Downtown By-Pass when it approved the Calgary Transportation Plan. 1998, maximum daily traffic volumes are 14,000 on 10 Avenue SW, 24,000 on 11 Avenue SW and 22,000 on 12 Avenue SW.

In order to increase access to this part of the city, it would be appropriate to permit a full east/west movement across 14 Street West at 10 Avenue South. This would have the effect of increasing the capacity of routes from the west (i.e. Bow Trail, Crowchild Trail southbound). Initial studies, including the work of the Panel, indicate this may be feasible, but further work is required to confirm it.

Balancing The Triangle

As described in the introductory Goal & Principle section, when Council approved the Calgary Transportation Plan in 1995, it not only removed the south Downtown By-Pass from the Plan and Bylaw; it also embraced a very different philosophy particularly with respect to Downtown Mobility and Inner City quality of life.

The impact on mobility of converting 11 and 12 Avenue back to two-way has been subsequently investigated and the analysis indicates that there will be no significant negative impact relative to mobility. From a local perspective, circulation will be enhanced with the conversion back to two-way, however, some locations (sites and intersections) may be problematic from an operational perspective as the access, egress and turning movement has developed around a one-way system with considerable history. A full Transportation System Management Plan, in consultation with affected stakeholders, will now be undertaken to address problem areas and issues and confirm the overall benefit of the conversion.

From a network mobility perspective, the analysis to date would indicate that the conversion back to two-way is a feasible alternative. From a local mobility and circulation perspective, the proposed conversion is a very desirable and beneficial proposition. From an overall planning perspective, that is, land use, quality of environment and quality urban place building perspective, the conversion is fundamental. The future of the community, business and social environment will be significantly improved with the proposed conversion. From a cost/affordability perspective, the conversion back to two-way will require in the order of \$1.5 million, primarily related to intersection traffic signal changes. The future of the community, business and social environment will be significantly improved with the conversion.

Summary

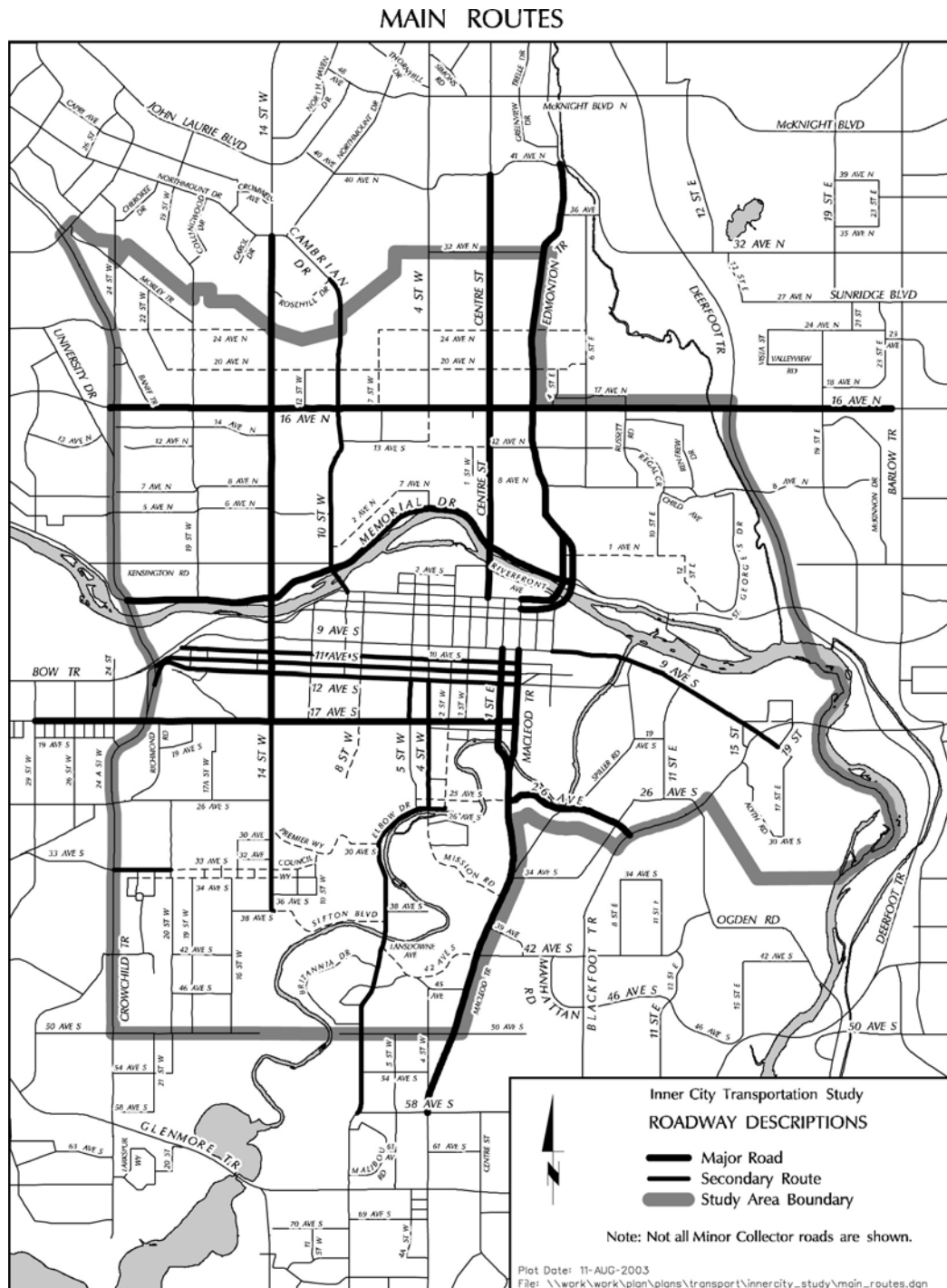
The conversion of 11 and 12 Avenues to a two-way operation, with the possibility of increased capacity due to opening up the intersection of 10 Avenue at 14 Street SW, would address both environmental and capacity issues.

In order to finalize a commitment and implement the conversion of these roads, it is necessary to undertake a detailed TSM Transportation System Management Study.

Recommendation

1. That the Administration be instructed to undertake a Transportation System Management study of the conversion of 11 and 12 Avenues SW back to a two-way system in consultation with affected stakeholders and report the results to Council through the Transportation, Transit and Parking Committee.
2. That a study be undertaken regarding the feasibility of achieving a full through movement east/west at 14 Street and 10 Avenue SW.
3. The study will make its recommendations based on the overall planning merit of the conversion as this is a situation when issues of network, mobility, local mobility and achieving important planning objectives are inseparable. Accordingly, the Terms of Reference for the study should utilize and address the analysis recommendations of the Technical Review Panel as a guiding framework.
4. That the City and community embrace an ongoing commitment to establish and maintain a balance between community quality of life and safe and acceptable mobility for road users.

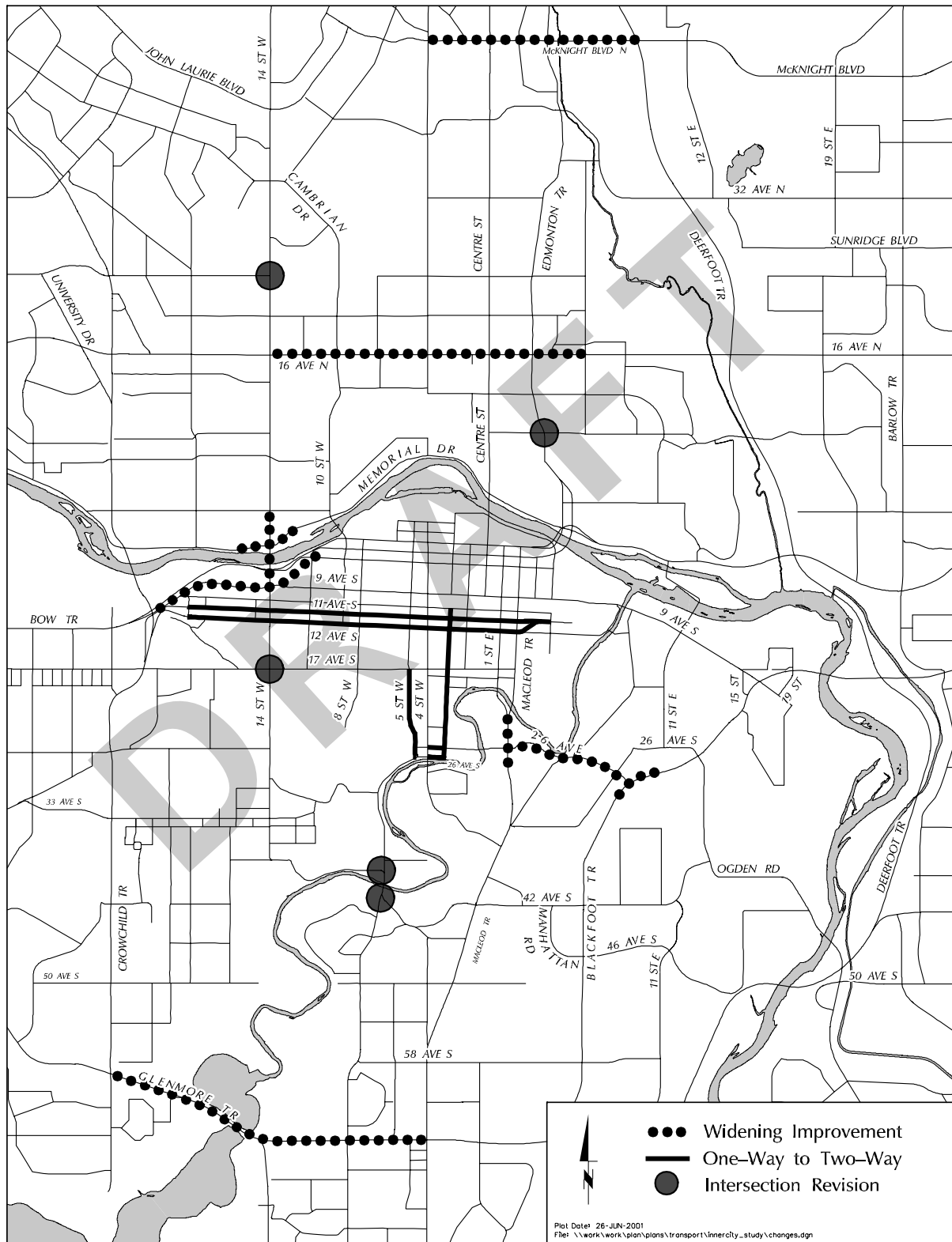
5.2a Main Roads (within the study area)



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5.3 Road Changes

Roadway Changes



Further review undertaken at the time suggested that the potential negative effects of a change to two-way traffic could be reduced if the intersection at 10th Avenue and 14th Street SW was opened to east/west commuter traffic.

3.0 Study Process

The 10th, 11th, and 12th Avenue study process has been designed to ensure that stakeholders have ample opportunity for involvement. The process is summarized as follows:

June 2003	Process Initiation	Initial meetings will be held with the affected communities, building owners and managers, major tenants and owner-occupants. Representatives from these groups will be selected to work with the City's technical team on the design and problem solving process.
July - Oct	Alternative Design and Testing	The City's technical team will, with assistance from community/business representatives, formulate study objectives, develop an evaluation method, select and test alternatives. Inherent in this is a learning process in which alternatives will be improved as the result of initial testing.
Nov	Alternative Evaluation	Alternative designs and test results will be presented to affected communities, building owners and managers, and tenants/owner-occupants in a series of meetings. An open house will also be held to inform and seek advice from the general public.
Jan 2004	Selection of Preferred Choice	A preferred alternative will be selected and a report will be prepared for City Council's consideration. Meetings with affected communities, building owners and managers, and tenants/owner-occupants will be held to finalize the preferred alternative.
Feb	Approval Process	Presentation to Transportation, Transit and Parking Committee
March	Approval Process	Presentation to City Council

4.0 Key Stakeholders

Stakeholders may be generally divided into residents, property owners, and business tenants. Community associations, business revitalization zones, and industry associations such as the Building Owners and Managers Association (BOMA) and the Calgary Apartment Association often act as representatives for these stakeholders. In order to effectively engage key stakeholders, the following approach will be taken.

Stakeholder		Representation
Communities	Directly Affected	Connaught, Sunalta, Victoria
	Affected	To the East (e.g. INglewood, Ramsay); To the South (e.g. Cliff Bungalow/Mission, Mount Royal, Bankview, Scarboro, etc); To the West (e.g. Shaganappi, Rosscarrock, Spruce Cliff, Wildwood, etc); To the North (Downtown, Hillhurst-Sunnyside, etc)
Businesses	Property Owners	BOMA, Calgary Apartment Association, Independent Owners
	Tenants	BRZs (Victoria - directly affected / Downtown, Fourth Street, Uptown 17 -- affected), Independent Operators

5.0 Community Information

The three directly affected communities have a current population of approximately 21,000, living in approximately 13,000 dwelling units.

Population	1997	2002	% Change
Connaught	11,778	12,041	2%
Sunalta	3,041	3,341	10%
Victoria	5,441	5,521	1%
Total	20,260	20,903	3%

Source: Calgary Civic Census

Dwelling Units	1997	2002	% Change
Connaught	7,746	8,041	4%
Sunalta	2,024	2,012	-1%
Victoria	3,186	3,222	1%
Total	12,956	13,275	2%

Source: Calgary Civic Census

Commercial data for the Beltline includes 4th Street in Mission, but does not include 10th Avenue SW (west of 14th Street) in Sunalta.

Office vacancy rates remain higher than normal and reflect the general economic condition in the current market place. The negative net absorption in the first quarter of 2003 is almost entirely the result of Stantec's move to their new building in the suburbs.

Office Space	First Qtr	2003
Total Space (SF)		3,569,356
Vacancy (SF)		700,582
Vacancy Rate		19.6%
Net Absorption (SF)		(63,700)
Net Absorption		-1.8%
Sublease Space (SF)		85,967
Sublease Space		2.4%
Construction Activity (SF)	Vintage II	111,500

Source: CB Richard Ellis

Retail Vacancy rates have increased slightly in the latter part of 2002. They remain similar to current downtown and suburban neighbourhood shopping centre rates.

Retail Space	Fourth Qtr		2002
	Street Retail	Shopping Centre	Total
Space (SF)	820,328	116,712	937,040
Vacancy (SF)	51,931	9,896	61,827
Vacancy Rate	6.3%	8.5%	6.6%

Source: CB Richard Ellis

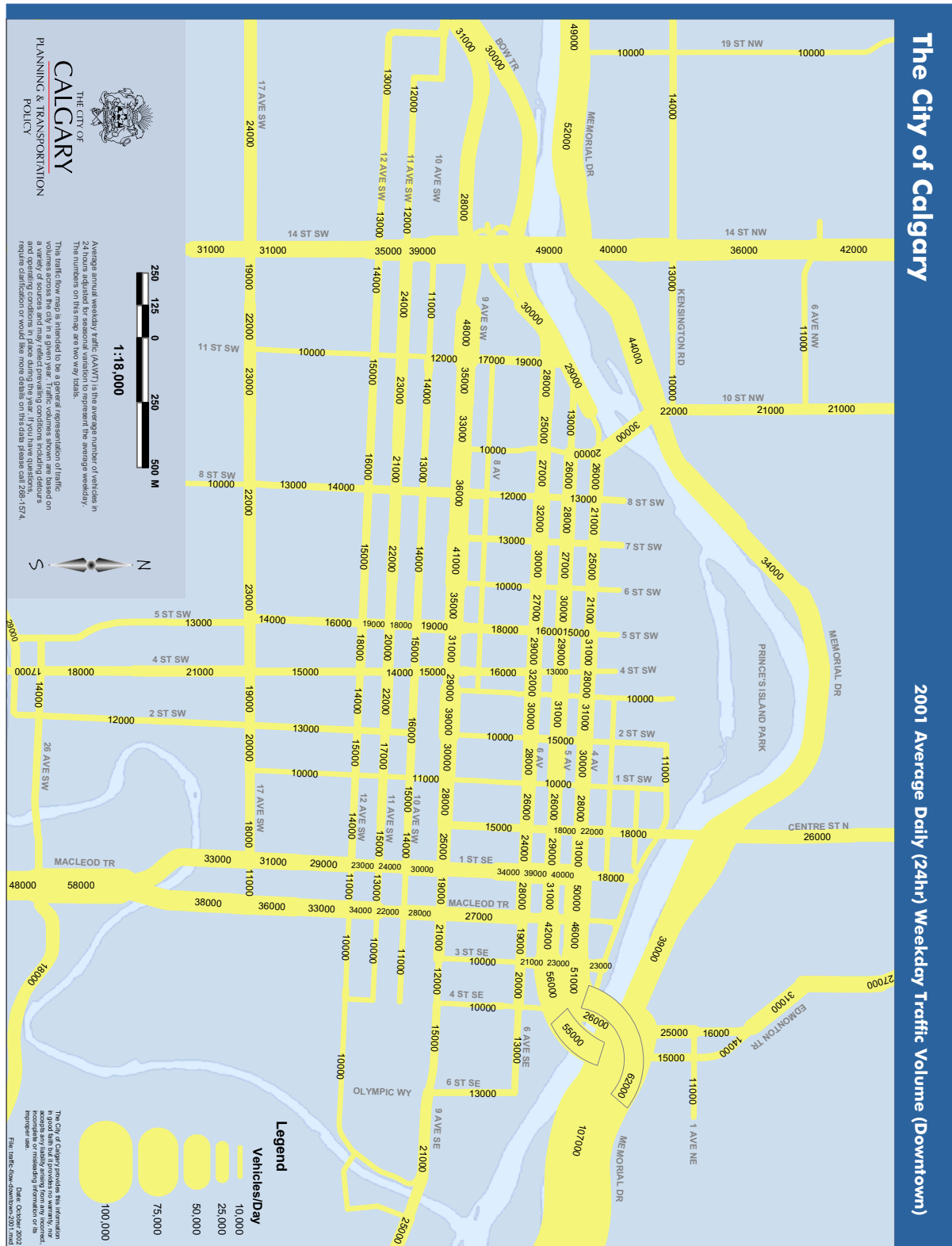
6.0 Corridor Information

Information has been collected along the 10th, 11th and 12th Avenue corridor based upon transportation zones. Please note that this data does not include portions of the corridor located on the north side of 10th Avenue and south side of 12th Avenue.

10th, 11th, & 12th Avenues	2002 Population	2002 Dwelling Units	2001 Employment
W of 14 Street	1,862	1,155	1,479
Between 11 & 8 Streets	391	235	1,129
Between 8 & 5 Streets	321	223	2,856
Between 5 & 4 Streets	142	93	2,546
Between 4 Street & 1 Street W	181	153	2,884
Between 1 Street W & Macleod Trail	945	563	1,649
East of Macleod Trail	473	92	596
Total	4,315	2,514	13,139

Source: Calgary Civic Census

Relative traffic volumes are shown on the following page.



10th, 11th, and 12th Avenues South - Planning & Transportation Study

Average Weekday Volume (24 hrs) 10th Avenue S	2001
W of 14 Street	N/A
E of 14 Street	11,000
E of 11 Street	14,000
E of 8 Street	14,000
E of 5 Street	15,000
E of 4 Street	16,000
E of 1 Street W	15,000
E of 1 Street E	N/A
E of Macleod Trail	11,000

Average Weekday Volume (24 hrs) 11th Avenue S	2001
W of 14 Street	12,000
E of 14 Street	24,000
E of 11 Street	23,000
E of 8 Street	22,000
E of 5 Street	20,000
E of 4 Street	22,000
E of 1 Street W	15,000
E of 1 Street E	13,000
E of Macleod Trail	10,000

Average Weekday Volume (24 hrs) 11th Avenue S	2001
W of 14 Street	13,000
E of 14 Street	14,000
E of 11 Street	15,000
E of 8 Street	15,000
E of 5 Street	18,000
E of 4 Street	14,000
E of 1 Street W	14,000
E of 1 Street E	11,000
E of Macleod Trail	10,000
E of 4 Street E	10,000

7.0 North American Examples

Across North America one-way streets in downtown and adjacent areas are being changed to two-way operation. The changes are being undertaken for many reasons. On predominantly residential streets, the principal reason involves community improvement and preservation. In commercial areas, enhancement of local business is often the rationale for the change.

The best description of the rationale for changing to two-way traffic in a commercial area comes from Louisville, Kentucky. In their downtown plan, they write:

“Essentially, the ‘philosophy’ of returning to two-way streets where appropriate is based upon the fact that the operation of the street should be maximized for its use throughout the day, rather than for a relatively short period of time each morning and afternoon. A street flowing very quickly during AM and PM rush hours often means a dead street the remainder of the day...”

“The benefits of such operational changes are clear. Retailers express a strong preference for two-directional traffic in front of their establishments... For pedestrians, the slower speeds that result, the increase in safety in crossing fewer lanes of traffic moving in the same direction at higher speeds, and the more ‘pedestrian-friendly’ environments that result are all significant benefits. For the intermittent or casual visitor to downtown, the one-way street grid often presents a confusing circulation pattern and frustration at the inability to find a specific location and/or be taken blocks out one’s way in trying to return to a destination or find off-street parking.”

“The major objections to two-way traffic often come from daily commuters, who understand intuitively that the current one-way system is prioritized for their peak-hour commuting, and that a change to two-way operation will likely mean a somewhat reduced convenience.”

Most cities weigh very carefully the balance between the benefits of two-way operation for local businesses or residents and the costs to commuters. Wherever possible, attempts are made to take advantage of unused road capacity, reduce congestion with dedicated turn lanes or advanced signals, or divert commuter traffic to other more appropriate streets.

Most of the changes to two-way traffic have occurred within the last five years. The effects of the changes upon travel behavior are immediate. The effects on local businesses and residential communities are generally more long term. Examples from various North American cities are summarized as follows:

7.1 Albuquerque, New Mexico (Metro Population 678,000)

Four major N/S downtown streets (2nd, 3rd, 5th, and 6th Streets) have been changed to two-way traffic in 2003. Seven shorter E/W streets were changed to two-way traffic a number of years ago.

The Downtown Action Team, a local business organization, led the most recent process. The changes were made to increase pedestrian traffic, street parking, and storefront visibility. Intersection improvements, e.g. brick crosswalks and enhanced signage, have also been installed. Ten new stores have opened on these streets in the last few months. This has occurred in part because of an active business recruitment program that has been coordinated with the traffic changes. The project is part of a downtown plan that was approved in 2001.

There was some opposition to the traffic changes, particularly where on-street parking was lost to accommodate a bus only lane. Modifications in the plan were made to accommodate some of the concerns. Automobiles are not moving out of the downtown as fast as they were before the change, but it seems as though more people are staying in the downtown after hours.

7.2 Buffalo, New York (Metro Population 1,142,000)

Four streets (Huron, Ellicott, Washington, and Franklin) in Downtown Buffalo have been changed to two-way traffic. The process began in 1998 and the actual changes have occurred in stages over the last two years. Buffalo Place Inc., a downtown business organization, has led the process citing the confusion caused by the one-way couplets and the need to create a pedestrian friendly business environment in downtown. The changes are occurring in conjunction with the opening of Main Street, a pedestrian/transit mall, to limited automobile traffic. Additional downtown streets are now being considered for two-way operation.

The affected streets all had less traffic than anticipated when they were originally changed to one-way operation 20 or 30 years ago. The changes have been considered successful from a traffic operations viewpoint, in part because of the installation of left turn lanes. Some parking meters have been lost to accommodate rush hour traffic. There have been some increases in travel times, in part, because of signaling changes needed to accommodate the changes. It is too early to determine whether the traffic changes will help spur redevelopment in Downtown Buffalo.

7.3 Cincinnati, Ohio (Metro Population 1,960,000)

Vine Street, a N/S connector to the Downtown from the South, was changed to two-way traffic in 1999. Vine Street runs through the Over-the-Rhine community (predominantly residential) and Uptown (a major employment center which includes a university and several hospitals).

In 1996, the Over-the-Rhine Chamber of Commerce initiated a process that led to conversion. They felt that two-way operation would be better for business. Vine Street now operates with one traffic lane in each direction and two parking lanes. Since conversion, the average traffic speed has decreased, vehicular accidents have increased, and some re-routing of traffic to adjacent streets has occurred. The reduction from 4 to 2 lanes of traffic has resulted in the increased congestion on Vine Street.

Vine Street is the center of a major revitalization effort in Over-the-Rhine. Included in this project is revitalization of Findlay Market, development of a Neighbourhood Pride Center, and street/building facade improvement projects.

7.4 Edmonton, Alberta (Metro Population 937,000)

In 1998, four streets in Downtown Edmonton (102 and 103 Avenues, 105 and 106 Streets) were changed to two-way operation. They had last operated as two-way streets in 1972. The change to two-way traffic was made to improve the pedestrian environment, access to local businesses, and traffic circulation as well as encourage residential and commercial development.

In 2001, the City of Edmonton conducted an evaluation of the changes and found that: travel speeds had declined as expected; pedestrian collisions had declined (as it had in the Downtown as a whole); and pedestrian clearance times at intersections had increased. On-street parking had been increased by 170 spaces, although utilization was somewhat less than expected. There has been some displacement of traffic to adjacent streets as had been anticipated. Traffic volumes on 103 Avenue have declined by 13%, for example. Vehicular collisions also declined (as it did for the downtown as a whole).

Positive feedback had been received from the both residents and the business community. High-rise apartment redevelopment has been occurring on the west end of the Downtown adjacent to the streets where the traffic changes have been made, but it is unclear whether the two-way traffic has been a significant encouragement to redevelopment. The general conclusion has been that “the change to two-way traffic has proven to be a positive initiative which has not had any adverse effects on traffic operations and has been met with satisfaction by both the public and business sectors.”

7.5 Hamilton, Ontario (Metro Population 662,000)

Since the early 1990s, proposals to change one-way streets to two-way operation have been led by downtown businesses and residents, organizing themselves as the Two Way Streets Committee. A new downtown plan was prepared in 1997; its goal was to make Downtown Hamilton more livable. The two-way traffic plan has a big profile, but it is just one piece of a much larger revitalization effort.

Phase One of the traffic changes was recently completed. It involves two major N/S streets, James and John Streets. The proposed changes have been controversial and, although it appears that the majority of the public support the changes, a significant minority is more skeptical.

The success of James and John Streets, in the area known as Jamesville, is changing public perceptions. Street crime in the area has decreased and the changes are supported by the police because public surveillance has increased. Traffic speeds have declined, congestion has increased somewhat, and some traffic is being diverted to other streets. Redevelopment is happening in the area, but cannot be solely attributed to the conversions, as the City is offering tax rebates and loans for development, restoration and loft conversions.

7.6 Kansas City, Missouri (Metro Population 1,755,000)

Several years ago, several streets in the west end of downtown (i.e. the Garment District) were changed to two-way traffic. Significant residential development occurred at the time of the traffic changes.

In 1998, the Downtown Council (a local business organization) conducted a study that recommended that a number of the remaining one-streets be changed to two-way traffic to encourage redevelopment. The proposals reflect a desire on the part of the business community to make the downtown more pedestrian and visitor friendly.

Wyandotte Avenue and several adjacent streets in Downtown Kansas City are to be changed to two-way traffic. Traffic volume in Downtown Kansas City has declined in recent years. The proposed changes are intended to be part of a broader revitalization effort.

7.7 Louisville, Kentucky (Metro Population 1,005,000)

Oak and St. Catherine Streets, which are located on the edge of Downtown Louisville, were changed to two-way operation in May 2002. They run through the residential neighbourhood of Old Louisville. The Old Louisville Neighbourhood Association and the City of Louisville Development Authority strongly supported the changes. Both streets are collectors; they now have one lane in each direction with no left turn lanes. There have been complaints about traffic congestion and increased air pollution. The Police report that the area is now easier to patrol and shop visibility has increased.

Louisville is now proceeding with plans to change most of its one-way streets back to two-way operation. The City has concluded that the one-way system was not effectively addressing issues such as the health of street retailing, pedestrian use, and the ability to navigate conveniently within the downtown. A phased change over to two-way traffic has been recommended for ten additional streets in Downtown Louisville.

7.8 Sacramento, California (Metro Population 1,874,000)

One-way street systems were established in Downtown Sacramento between 1950 and 1976. A number of streets were changed back to two-way traffic as early as 1969 concurrent with the construction of a downtown pedestrian mall. Other streets were changed to two-way traffic in the 1980s in association with the development of a super-block downtown shopping centre and introduction of LRT. In these cases, retention of many of the one-way streets would not have made “functional” sense after the other elements (i.e. the pedestrian mall, shopping centre and LRT) were introduced.

Additional changes to two-way traffic have occurred in the 1990s. The primary rationale for the recent changes to two-way traffic involves the preservation of residential communities in the Downtown area. Some of the conversions involve traffic calming in areas that have primarily single-family residences.

Today, 43% of Downtown Sacramento is composed of one-way streets and 53% are two-way. In no instance, was two-way traffic introduced to stimulate redevelopment. There have been mixed results with the traffic calming measures introduced in the residential areas.

7.9 Toledo, Ohio (Metro Population 608,000)

Over the last five years, a number of streets in Downtown Toledo have been changed to two-way traffic. Traffic volumes on these streets varied considerably, but ranged up to 21,000 cars per day. Business and community groups have pressed for the changes in an attempt to encourage redevelopment and make Downtown Toledo more pedestrian friendly. Downtown Toledo Inc., representing downtown businesses, has championed the changes, which are linked to the construction of a 5,000 AAA baseball stadium and the development of an associated entertainment district in the Downtown.

The two-way changes on the major streets occurred in the fall of 2002. There have been fewer complaints than expected. Most complaints have focused on the increase in the number of traffic signals. Traffic speeds do not appear to have appreciably declined. Some street parking was lost in the change over. Redevelopment is occurring in the area with much of it related to the construction of the stadium and entertainment complex.

7.10 West Palm Beach, Florida (Metro Population 1,049,000)

A 1.5 km strip of the Dixie Highway, just south of the Downtown, was changed to two-way traffic two years ago. Dixie Highway is a commercial strip associated with US Highway No. 1. It had five southbound lanes, including two parking lanes. It now has two lanes in each direction with one parking lane. The new design allows for left turn lanes at major intersections.

Access and business exposure has increased since the changes were made. Some private redevelopment has also occurred. The loss of one parking lane on Dixie was a contentious issue for local businesses.

Olive Street, which runs perpendicular to Dixie, has recently been converted to two-way operation. Olive Street runs through a residential neighbourhood. Some off Olive Street's traffic has been diverted to Dixie. Traffic capacity has not been an issue on Dixie. There has been no real opposition to the traffic changes from the public. The conversions are seen as part of the larger goal of increasing residential development in the downtown.

Roughly 20 km of roadways are now being considered for two-way traffic changes.

8.0 Study Team & Contact Information

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