Final Report

Southeast Downtown Circulation Study

New Haven

South Central Regional COG

South Central Regional Council of Governments

City of New Haven

Prepared By

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WilburSmith ASSOCIATES

In Association With

CHA
Clough Harbour & Associates LLP

June 2008

CONTENTS

TABULATIONS

ILLUSTRATIONS

EXECUTIVE SUMMARY

The South Central Regional Council of Governments (SCRCOG) is the designated Metropolitan Planning Organization (MPO) for the New Haven area. The SCRCOG has undertaken the Southeast Downtown Circulation Study at the request of the City of New Haven. Clough Harbour & Associates LLP (CHA) is the prime consultant to SCRCOG on various transportation projects in the New Haven area. Wilbur Smith Associates (WSA) was selected as part of the CHA team to assist the SCRCOG and the City of New Haven on this project.

The purpose of this analysis is to work with the SCRCOG, City of New Haven, and stakeholder groups in the Downtown and Wooster Square neighborhoods to determine the transportation benefits of re-opening Fair Street between Union Street and Olive Street. Due to the closure of Fair Street, motorists do not have a direct connection from Downtown to the Wooster Square neighborhood.

Based on discussions with the City and stakeholders from the Downtown Wooster Square Management Team, both vehicular and non-vehicular connections to Olive Street are considered as possible alternatives. Vehicular connections include the provision of sidewalks on both sides of the roadway. Non-vehicular connections include a shared use path to Olive Street. Overall, the vehicular connection alternatives do show transportation benefits relative to delay and travel time, but the costs associated with these options outweigh the benefits.

At the request of the City, this study has evaluated potential benefits, costs, and impacts associated with re-opening Fair Street to improve traffic and pedestrian circulation in the Wooster Square area. The study determined that the transportation benefits of providing a vehicular or non-vehicular connection are limited relative to the overall cost of these improvements at this time. These improvements are currently cost prohibitive to the City. If the City desires to reopen Fair Street, they should investigate opportunities to have the connection fully or partially funded as part of private redevelopment in the area.

The City is currently redeveloping the 360 State Street site and looking into redeveloping the Coliseum site to encourage mixed use and transit oriented development. Similar opportunities exist along Fair Street given its proximity to the State Street train station and the Downtown. To provide for these redevelopment opportunities, the City may need to review existing land use and zoning along Fair Street.

CHAPTER 1 – INTRODUCTION

1.1 Background

The South Central Regional Council of Governments (SCRCOG) is the designated Metropolitan Planning Organization (MPO) for the New Haven area. The SCRCOG has undertaken the Southeast Downtown Circulation Study at the request of the City of New Haven. Clough Harbour & Associates LLP (CHA) is the prime consultant to SCRCOG on various transportation projects in the New Haven area. Wilbur Smith Associates (WSA) was selected as part of the CHA team to assist the SCRCOG and the City of New Haven on this project.

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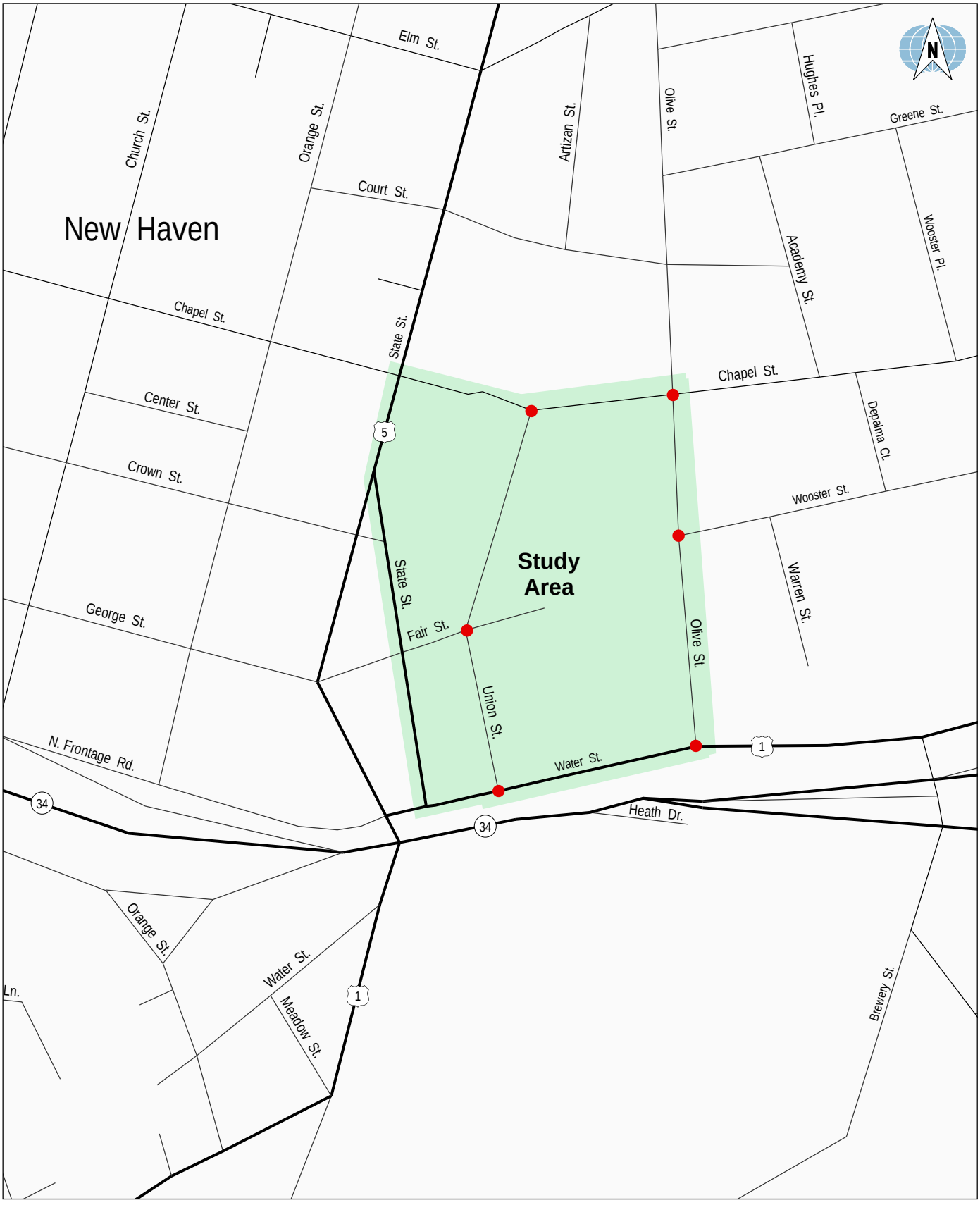
The specific analysis objectives are:

- Define existing mobility or congestion problems.
- Inventory existing roadway and geometric conditions.
- Identify existing pedestrian and land use along Fair Street.
- Assess the impact of existing travel patterns on the local street system.
- Develop alternatives to improve circulation by opening Fair Street.
- Develop a list of recommendations on the re-opening of Fair Street.

1.2 Project Area

The project area was defined as State Street to the west, Chapel Street to the north, Olive Street to the east, and Water Street (U.S. Route 1) to the south (See **Figure 1.1**). The following intersections are included in the project area:

- State Street/Chapel Street
- State Street/Fair Street
- Union Street/Water Street
- Union Street/Fair Street
- Union Street/Chapel Street
- Water Street/Olive Street
- Olive Street/Wooster Street
- Chapel Street/Olive Street



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STUDY AREA LOCATION MAP

FIGURE 1.1

1.3 Public Outreach Process

The City of New Haven and the SCRCOG assisted WSA in reaching out to stakeholders in the Downtown and Wooster Square neighborhoods. The Downtown Wooster Square Management Team was identified as a major stakeholder consisting of residents and interested parties within the project area.

During the study process, Management Team meetings were held every month. The Project Team made presentations at these meetings to provide project update and obtain public input during various stages. The following is a list of meetings that were conducted in chronological order:

- Project Kick-off Meeting – December 14, 2007
- Project Meeting with City – March 14, 2008
- Management Team Meeting – March 18, 2008
- Management Team Meeting – April 15, 2008
- Project Meeting with City Site Plan Review Committee – May 13, 2008
- Management Team Meeting – May 20, 2008
- Final Presentation to City – in June, 2008

The Management Team meeting minutes are included in the Appendix.

CHAPTER 2 – EXISTING TRANSPORTATION NETWORK

2.1 Roadway Network

Fair Street is a two-way two-lane east-west roadway in the study which runs between State Street and dead ends before Olive Street. Fair Street goes over the New Haven-Hartford Railroad Bridge. The portion of Fair Street, east of Union Street is approximately 35 feet wide. Sidewalks exist on both sides of Fair Street between State Street and Union Street. However, east of Union Street, sidewalk exists on the south side only. Land use along Fair Street near the dead end portion is commercial. There is no parking permitted along Fair Street.

Union Street is a two-way two-lane north-south roadway which runs between Chapel Street and Water Street (U.S. Route 1). Sidewalks exist on both sides of Union Street between Chapel Street and Fair Street. However, south of Fair Street, sidewalk exists on the east side only but is currently closed for safety reasons. Land use along Union Street is commercial. There is no parking permitted on Union Street.

Olive Street is a two-way two-lane north-south roadway which extends beyond the project area to the north and ends at Water Street (U.S. Route 1) to the south. Sidewalks exist on both sides of Olive Street. Land use along Olive Street is commercial. Parking is allowed on Olive Street between Chapel Street and Wooster Street. There is parking allowed on Olive Street south of Wooster Street.

Wooster Street is a one-way one-lane easterly roadway which runs between Olive Street and Franklin Street. Sidewalks exist on both sides of Wooster Street. Land use along Wooster Street is a mix of residential and commercial/retail. On-street parking is allowed on Wooster Street. Wooster Street provides access to the I-95 Northbound ramp at Franklin Street.

2.2 Study Area Intersections

State Street and Chapel Street

The intersection of State Street and Chapel Street is a four-legged signalized intersection. In the northbound direction on State Street, there is an exclusive left turn lane, a through lane, and shared through-right lane. In the southbound direction, State Street has an exclusive left turn lane, two through lanes, and an exclusive right turn lane. In the eastbound direction, Chapel Street has a single lane approach. Bus stops are located on both sides of Chapel Street on the west side of the State Street intersection. In the westbound direction, there are two general purpose lanes on Chapel Street. This intersection currently has a pedestrian phase which is triggered by a push-button.

State Street and Fair Street

The State Street /Fair Street intersection has two general purpose lanes on State Street. The Fair Street eastbound approach has an exclusive left turn lane and a through lane. The Fair Street approach has an exclusive right turn lane.

Olive Street and Chapel Street

The intersection of Olive Street and State Street is a four-legged signalized intersection. In the northbound and southbound directions on Olive Street, it has a single lane approach at the intersection. In the eastbound direction, Chapel Street consists of two general purpose lanes. In the westbound direction, Chapel Street has an exclusive left turn lane and a shared through-right lane. This intersection currently has a pedestrian phase which is triggered by a push-button.

Union Street and Chapel Street

The intersection of Union Street and Chapel Street is a four-legged signalized intersection. In the northbound direction on Union Street, there is an exclusive left turn lane and a shared through-right lane. In the southbound direction, the parking lot driveway is a single lane approach at the intersection. In the eastbound direction, Chapel Street has two lanes while in the westbound direction Chapel Street has a single lane approach to the intersection.

Union Street and Fair Street

The intersection of Union Street and Fair Street is a four-legged STOP controlled intersection. The STOP signs are located on Fair Street. In the northbound and southbound directions on Union Street, there is a single lane approach at the intersection. In the eastbound direction on Fair Street, there is an exclusive left turn lane and a shared through-right lane. In the westbound direction, Fair Street has a single lane approach to the intersection. Currently, there is limited sight distance on Fair Street looking north on Union Street.

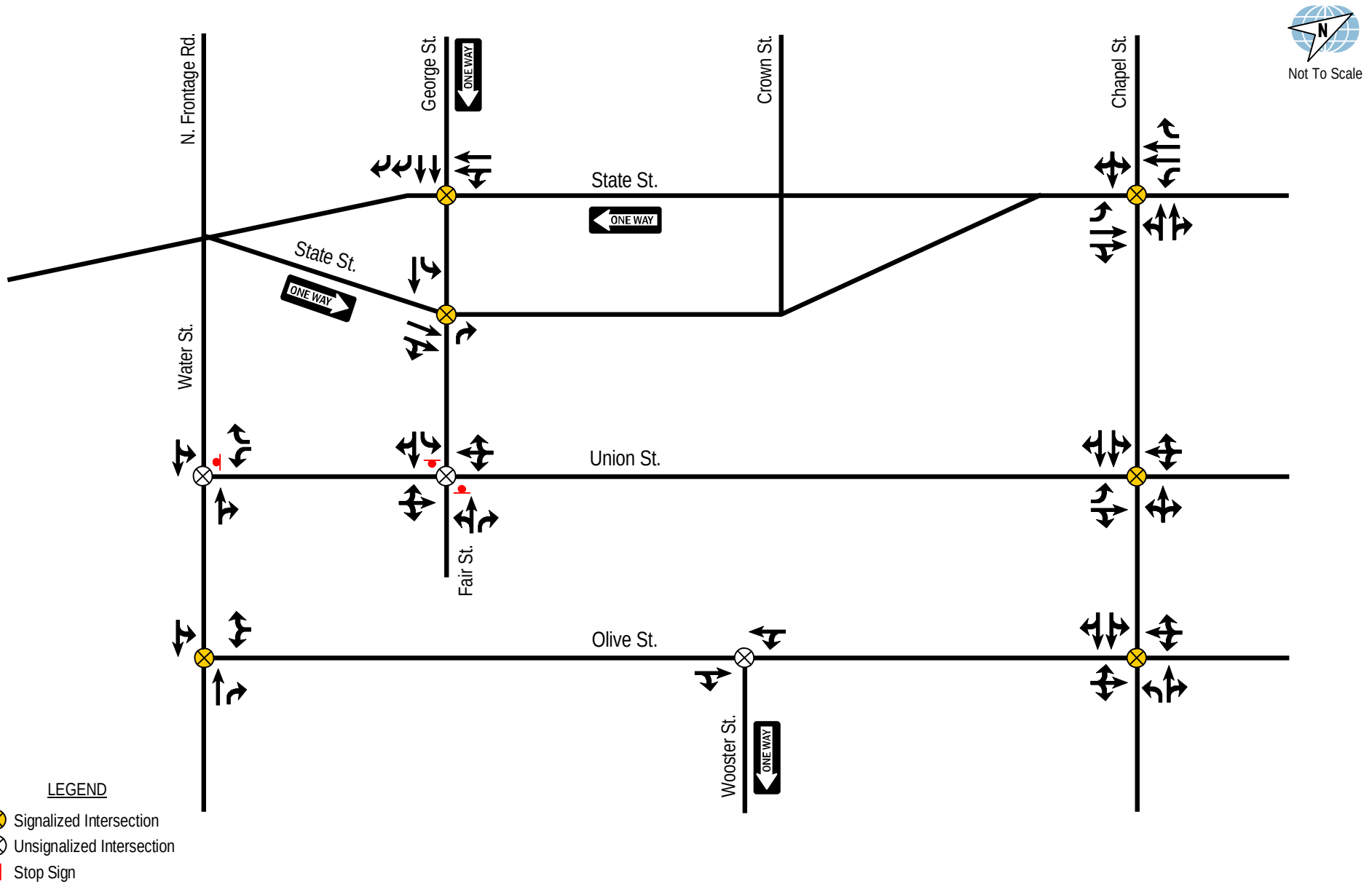
Union Street and Water Street

The intersection of Union Street and Water Street is a three-legged STOP controlled intersection. The Union Street approach is STOP sign controlled. In the eastbound and westbound directions on Water Street, there is a single lane approach to the intersection. In the southbound direction, Union Street has a separate left and right turn lane at the intersection.

Olive Street and Water Street

The intersection of Olive Street and Water Street is a three-legged signalized intersection. In the eastbound direction on Water Street, there is a single lane approach to the intersection. The westbound approach has a through and an exclusive right turn lane. In the southbound direction, Olive Street has a single lane approach at the intersection.

Figure 2.1 shows traffic control and lane arrangements at the study area intersections.


N
Not To Scale
N. Frontage Rd.
George St.
ONE WAY
Crown St.
Chapel St.
State St.
ONE WAY
State St.
ONE WAY
Water St.
Union St.
Fair St.
Olive St.
Wooster St.
ONE WAY
LEGEND
Signalized Intersection
Unsignalized Intersection
Stop Sign

2.3 Bicycle/Pedestrian Facilities

Bicycle Routes

Within the project area, there is an existing bicycle route along Olive Street coming in from Court Street to the north going south to Water Street. At many locations, bicyclists use the sidewalks and shoulders to traverse the study area.

Pedestrian Facilities

Pedestrian facilities in the form of sidewalks are present along the entire project area. Crosswalks are provided at intersection locations to facilitate pedestrians to cross safely.

Figure 2.2 shows existing bicycle and pedestrian facilities in the study area.

2.4 Land Use

Existing land use in the project area is primarily commercial. These commercial properties have off-street parking areas. Along Wooster Street, the land use is a mix of residential and commercial/retail.

Figure 2.3 shows existing land use with property owners in the study area.

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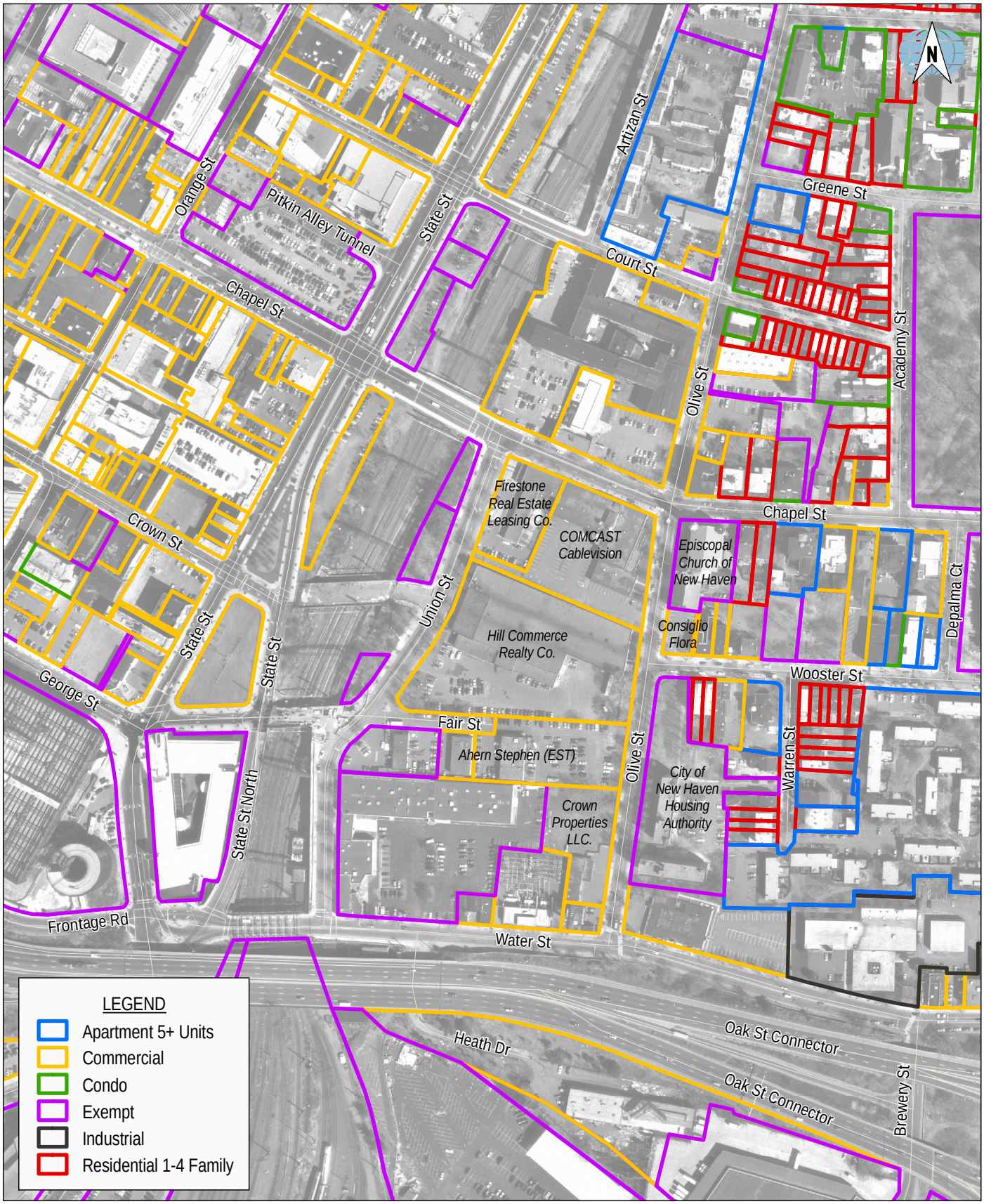
EXISTING PEDESTRIAN AND BICYCLE FACILITIES

FIGURE 2.2


N
Orange St
Pitkin Alley Tunnel
State St
Artizan St
Greene St
Court St
Chapel St
Academy St
Olive St
Firestone Real Estate Leasing Co.
COMCAST Cablevision
Episcopal Church of New Haven
Chapel St
Depalma Ct
Crown St
Union St
Consiglio Flora
Hill Commerce Realty Co.
Wooster St
George St
State St
State St
Fair St
Ahern Stephen (EST)
Olive St
Warren St
City of New Haven Housing Authority
Crown Properties LLC.
State St North
Frontage Rd
Water St
Heath Dr
Oak St Connector
Oak St Connector
Brewery St
LEGEND
Apartment 5+ Units
Commercial
Condo
Exempt
Industrial
Residential 1-4 Family

CHAPTER 3 - EXISTING CONDITIONS ANALYSIS

3.1 Data Collection

The following data was obtained from the City of New Haven and through prior work conducted by WSA in the project area:

- Available traffic volumes
- Signal phasing and timing information

The following data was obtained through field reconnaissance:

- Intersection geometries such as number of lanes, pavement width, and traffic control.
- On-street parking activity
- Sight distance measurements

3.2 Existing (2007) Peak Hour Traffic Volumes

SCRCOG provided peak hour turning movement counts at several intersection locations in the project area. These turning movement counts were conducted from 7:00 to 9:00 A.M. and 4:00 to 6:00 P.M at the following locations:

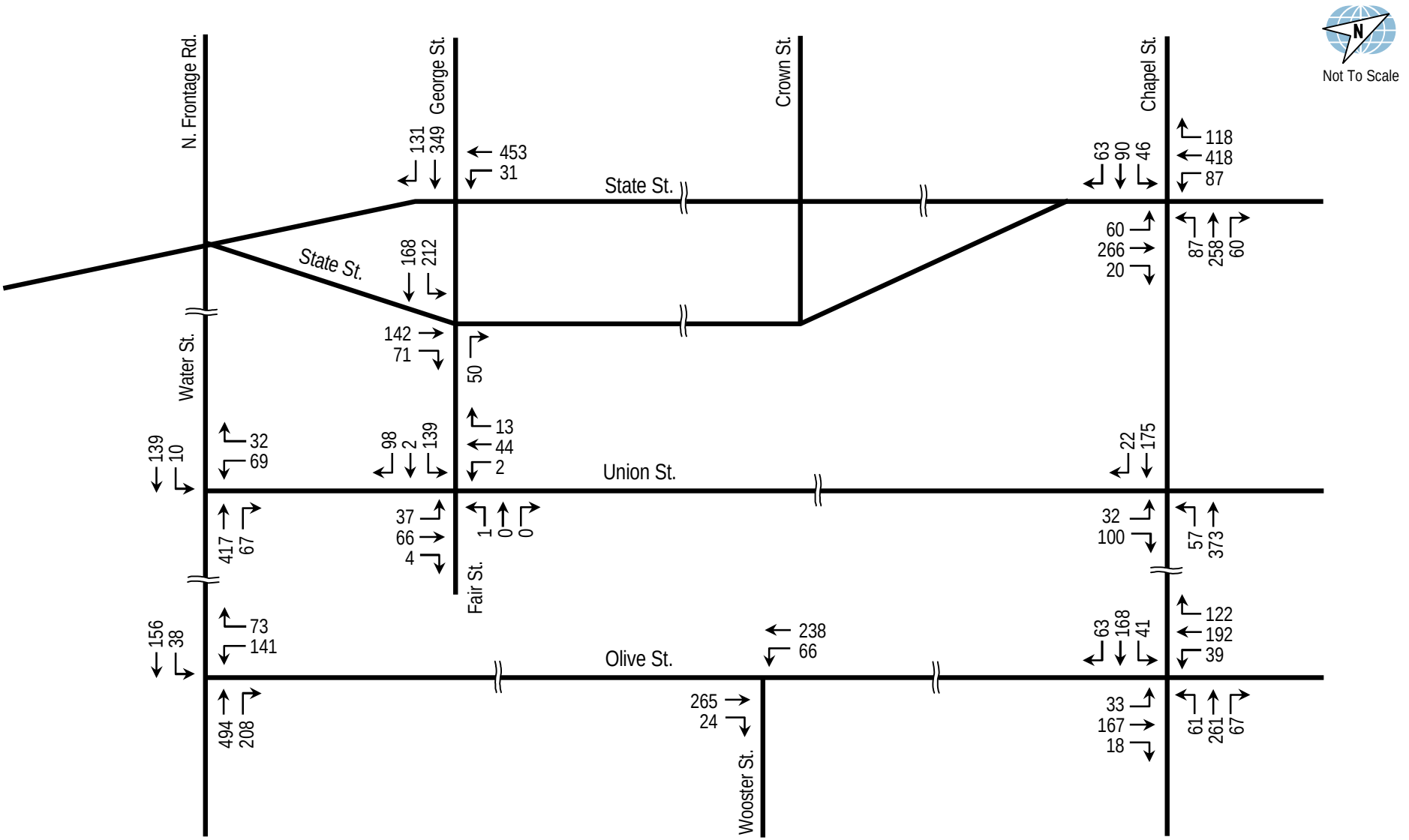
- Union Street/Water Street
- Union Street/Fair Street
- Union Street/Chapel Street
- Water Street/Olive Street
- Olive Street/Wooster Street
- Chapel Street/Olive Street

Traffic volumes were obtained at the State Street/Chapel Street and State Street/George Street/Fair Street intersections through prior work conducted by WSA. **Figures 3.1** and **3.2** present existing (2007) A.M. and P.M. peak hour traffic volumes for the study area respectively.

3.3 Existing Circulation Patterns

Existing travel patterns from downtown into the Wooster Square neighborhood indicate that motorists use Chapel Street or Water Street into Wooster Street because Fair Street currently does not extend to Olive Street.

Figures 3.3 through **3.6** show travel routes motorists currently use to go from downtown to Wooster Street. Re-opening Fair Street would create a more direct route from George Street to Olive Street/Wooster Street.



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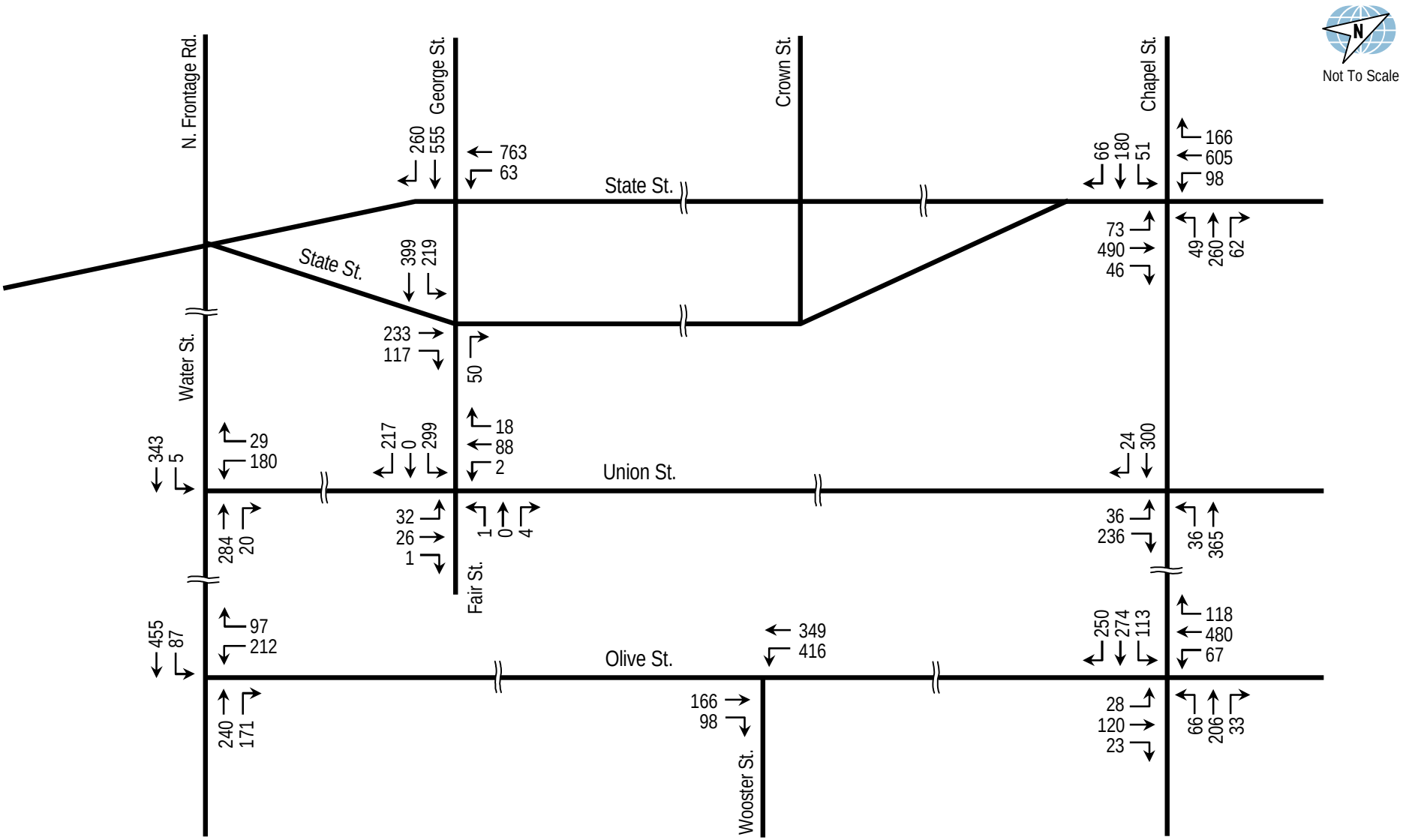
EXISTING (2007) A.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 3.1



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EXISTING (2007) P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 3.2

The travel patterns shown in Figures 3.3 through 3.6 are listed below:

- George Street to Wooster Street via State Street, Chapel Street, and Olive Street.
- George Street to Wooster Street via Fair Street, Union Street, Chapel Street and Olive Street.
- George Street to Wooster Street via Fair Street, Union Street, Water Street, and Olive Street.
- George Street to Wooster Street via State Street, Water Street, and Olive Street.

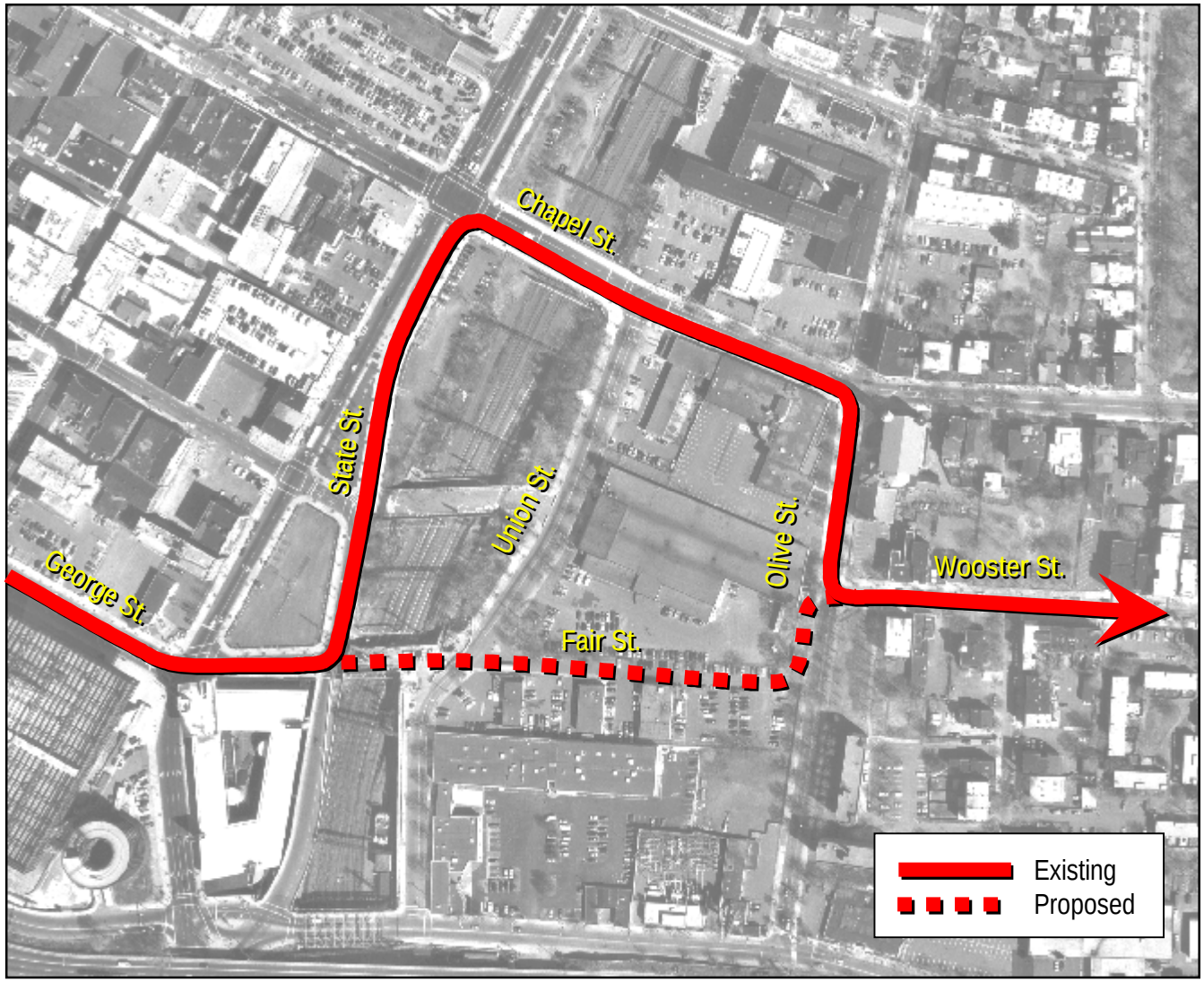
The above travel patterns are anticipated to change if Fair Street is re-opened to Olive Street.

3.4 Capacity Analysis

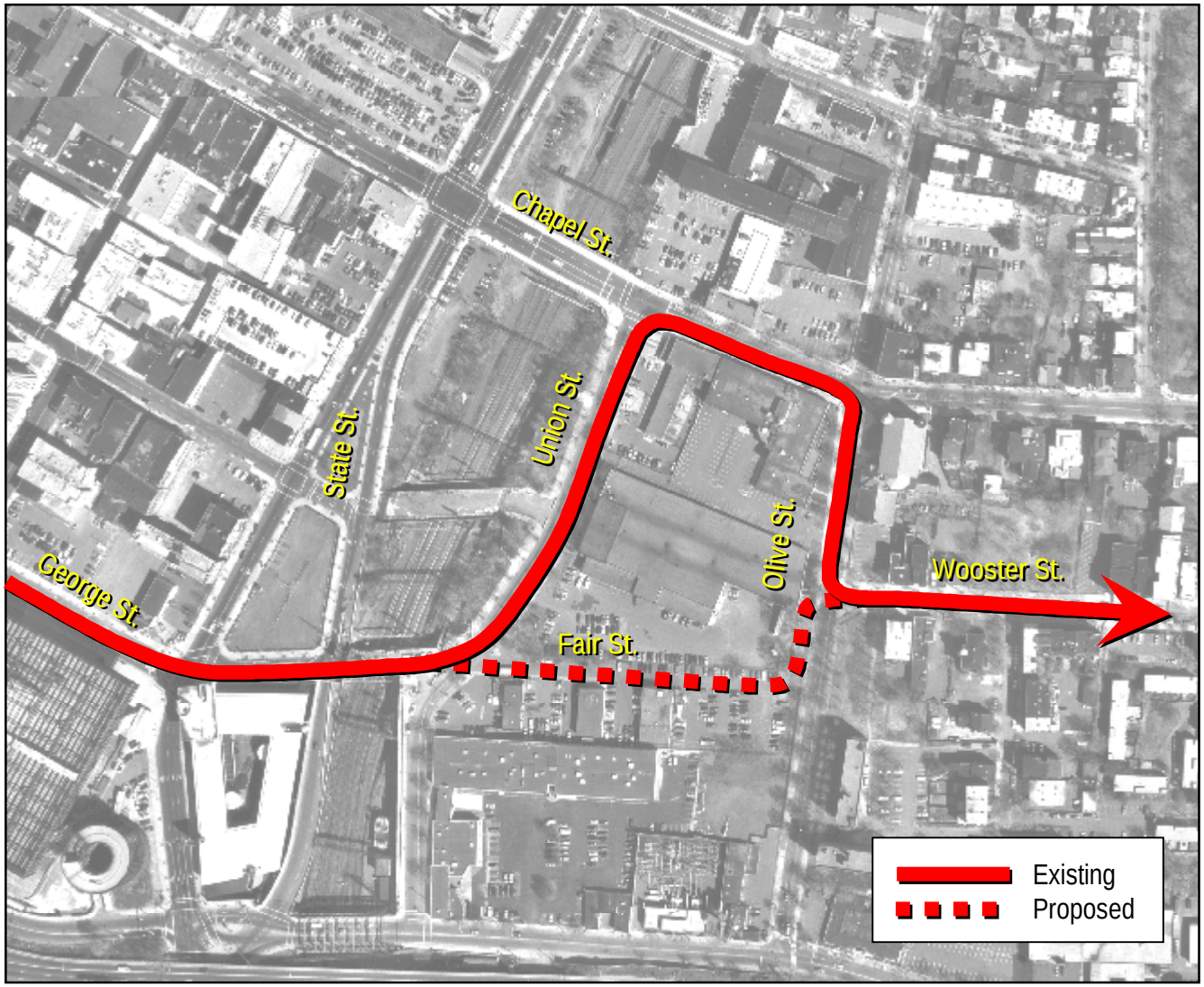
A study of capacity is important in determining the ability of a specific roadway, intersection, or freeway to accommodate traffic under various levels of service. Level of Service (LOS) is a qualitative measure describing driver satisfaction with a number of factors that influence the degree of traffic congestion. These factors include speed and travel time, traffic interruption, freedom of maneuverability, safety, driving comfort and convenience, and delay.

In general there are six levels of service describing flow conditions. The highest, LOS A, describes a condition of free flow, with low volumes and high speeds. LOS B represents a stable traffic flow with operating speeds beginning to be restricted somewhat by traffic conditions. LOS C, which is normally utilized for design purposes, describes a stable condition of traffic operation. It entails moderately restricted movements due to higher traffic volumes, but traffic conditions are not objectionable to motorists. LOS D reflects a condition of more restrictive movements for motorists and influence of congestion becomes more noticeable. LOS E is representative of the actual capacity of the roadway or intersection and involves delay to all motorists due to congestion. The lowest, LOS F, is described as force flow and is characterized by volumes greater than the theoretical roadway capacity. Complete congestion occurs, and in extreme cases, the volume passing a given point drops to zero. This is considered as an unacceptable traffic operating condition.

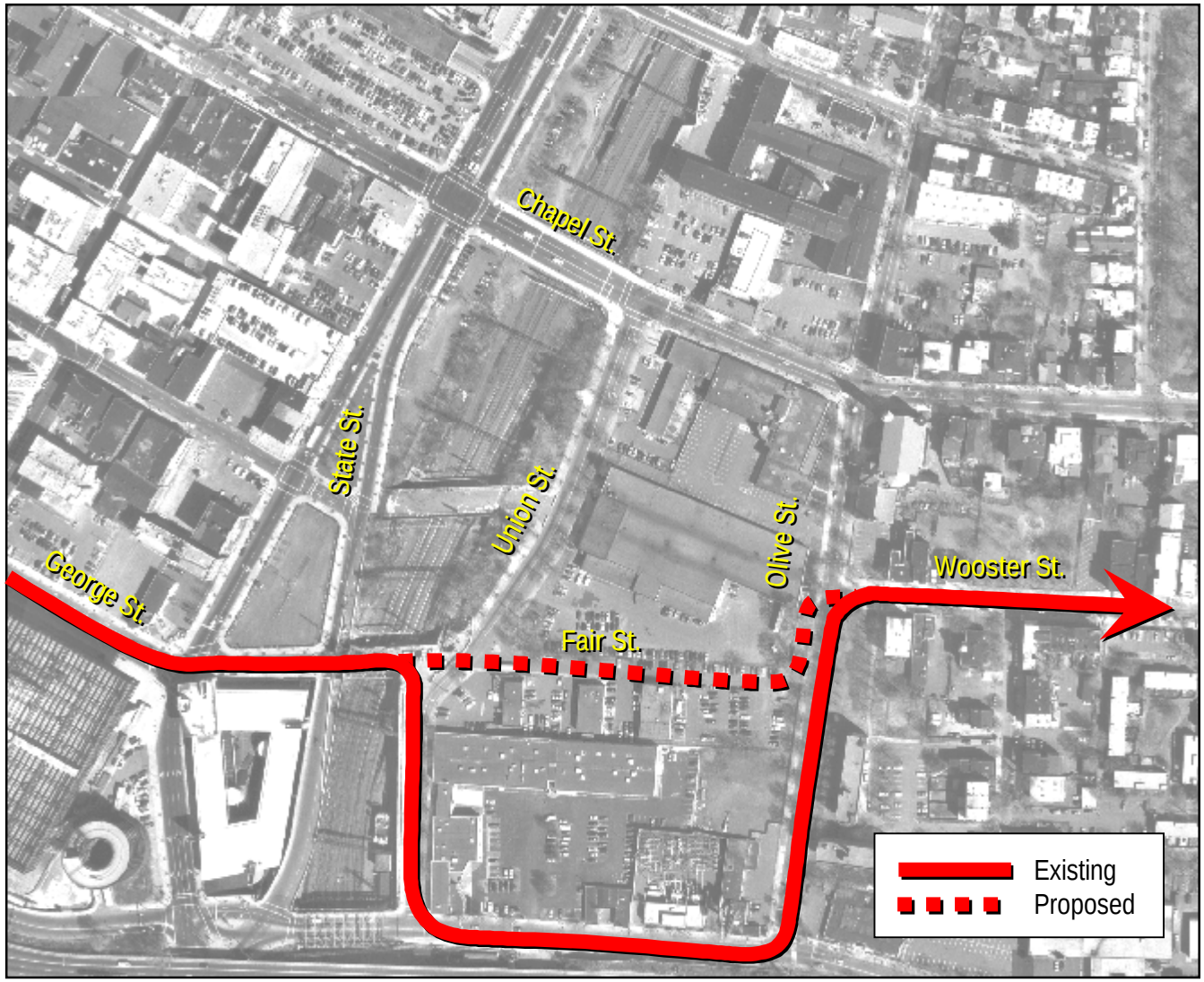
For this analysis, level of service was performed for signalized and un-signalized intersections. The traffic analysis software Synchro 7 was used to determine the existing peak hour LOS at all intersections along the analysis area.



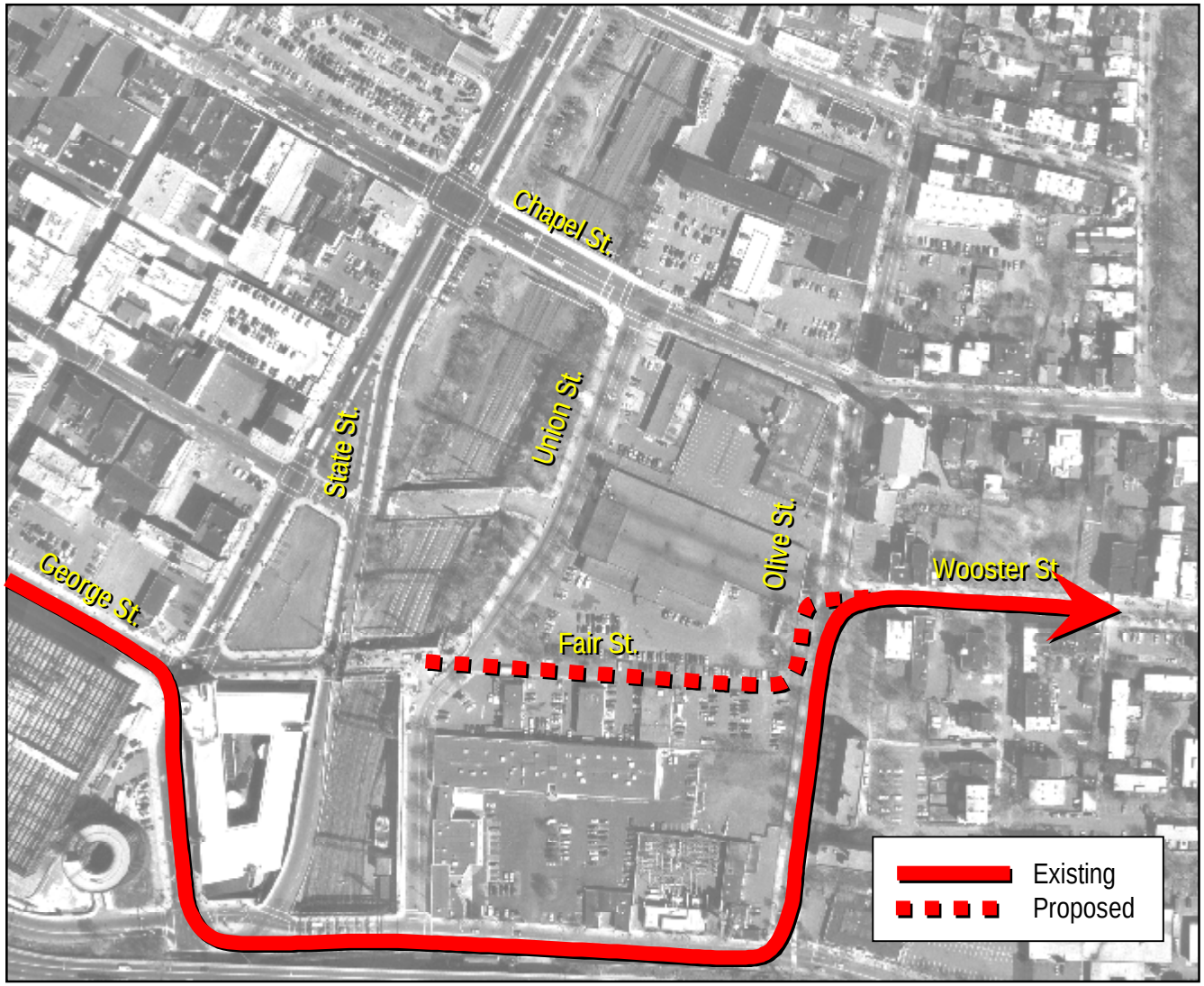
EXISTING TRAVEL PATTERNS – GEORGE STREET TO WOOSTER STREET
VIA STATE STREET AND CHAPEL STREET



EXISTING TRAVEL PATTERNS – GEORGE STREET TO WOOSTER STREET
VIA UNION STREET AND CHAPEL STREET



EXISTING TRAVEL PATTERNS – GEORGE STREET TO WOOSTER STREET
VIA UNION STREET AND WATER STREET



EXISTING TRAVEL PATTERNS – GEORGE STREET TO WOOSTER STREET
VIA STATE STREET AND WATER STREET

Tables 3.1 and **3.2** highlight the LOS criteria for signalized and un-signalized intersections respectively. The level of service criteria for signalized and un-signalized intersections is based on control delay per vehicle measured in seconds.

Table 3.1
Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	> 80

Source: 2000 Highway Capacity Manual, Transportation Research Board

Table 3.2
Level of Service Criteria for Un-signalized Intersections

Level of Service	Control Delay Per Vehicle (seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	> 50

Source: 2000 Highway Capacity Manual, Transportation Research Board

Level of service was determined for the study area intersections under existing (2007) conditions during the weekday A.M. and P.M. peak hour conditions. The results of the analyses are presented in **Table 3.3** for signalized intersections.

Table 3.3
Existing (2007) Level of Service for Signalized Intersections

Intersection	Existing 2007	
	A.M. Peak	**P.M. Peak**
Chapel Street and Union Street	**A (8.0)**	**B (11.7)**
Chapel Street EB approach	A (0.6)	A (1.1)
Through-Right	A (0.6)	A (1.1)
Chapel Street WB approach	A (3.1)	A (3.1)
Left-Through	A (3.1)	A (3.1)
Union Street NB approach	D (39.5)	D (38.0)
Left	D (40.5)	D (38.4)
Right	D (39.1)	D (38.0)
Chapel Street and Olive Street	**C (21.2)**	**D (39.0)**
Chapel Street EB approach	B (11.6)	C (20.0)
Left-Through-Right	B (11.6)	C (20.0)
Chapel Street WB approach	A (9.8)	B (16.2)
Left	A (8.3)	B (17.2)
Through-Right	B (10.1)	B (16.0)
Olive Street NB approach	C (27.4)	B (18.0)
Left-Through-Right	C (27.4)	B (18.0)
Olive Street SB approach	D (36.5)	E (74.1)
Left-Through-Right	D (36.5)	E (74.1)
Water Street and Olive Street	**A (9.3)**	**B (12.3)**
Water Street EB approach	A (5.9)	B (12.4)
Left-Through	A (5.9)	B (12.4)
Water Street WB approach	A (7.4)	A (6.4)
Through	A (8.3)	A (6.7)
Right	A (5.2)	A (5.9)
Olive Street SB approach	B (19.0)	C (20.4)
Left-Right	B (19.0)	C (20.4)

Table 3.3
Existing (2007) Level of Service for Signalized Intersections

Intersection	**Existing 2007**	
	A.M. Peak	**P.M. Peak**
Chapel Street and State Street	**C (25.7)**	**C (33.3)**
Chapel Street EB approach	C (29.7)	C (28.0)
Left-Through-Right	C (29.7)	C (28.0)
Chapel Street WB approach	B (19.3)	B (15.5)
Left-Through-Right	B (19.3)	B (15.5)
State Street NB approach	C (26.1)	D (42.8)
Left	C (34.5)	D (38.9)
Through-Right	C (24.4)	D (43.3)
State Street SB approach	C (28.5)	D (35.8)
Left	C (34.1)	D (43.8)
Through	C (28.4)	D (37.3)
Right	C (24.6)	C (25.6)
George Street and State Street SB	**C (23.1)**	**C (24.1)**
George Street EB approach	D (37.6)	C (34.0)
Through	C (33.5)	C (28.7)
Right	D (48.7)	D (45.4)
State Street SB approach	A (7.2)	B (13.3)
Through-Right	A (7.2)	B (13.3)
Fair Street and State Street NB	**A (9.3)**	**B (12.0)**
Fair Street EB approach	B (12.3)	B (15.7)
Left	B (13.1)	A (8.2)
Through	B (11.2)	B (19.8)
Fair Street WB approach	B (11.8)	A (9.0)
Right	B (11.8)	A (9.0)
State Street NB approach	A (3.5)	A (5.8)
Through-Right	A (3.5)	A (5.8)

Source: Wilbur Smith Associates

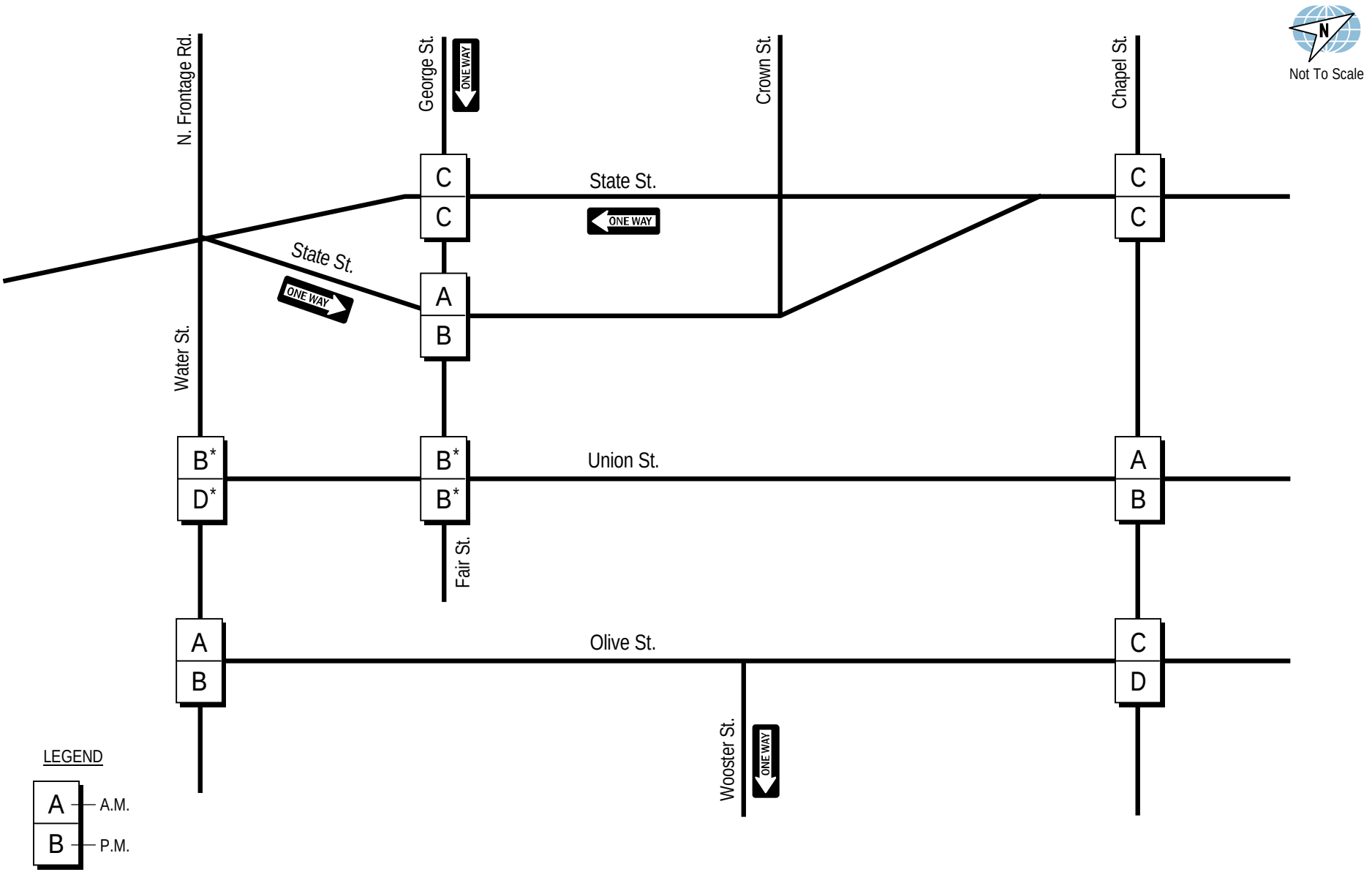
As shown in Table 3.3, the signalized intersections in the study area operate at an overall level of service LOS D or better. The results of the analyses are presented in **Table 3.4** for un-signalized intersections.

Table 3.4
Existing (2007) Level of Service for Un-signalized Intersections

Intersection	**Existing 2007**	
	A.M. Peak	**P.M. Peak**
Fair Street and Union Street		
Fair Street EB approach	B (10.6)	B (14.7)
Left	B (11.8)	C (17.6)
Right	A (9.0)	B (10.6)
Fair Street WB approach		
Left-Through-Right	C (18.9)	B (10.2)
Union Street NB approach		
Left	A (2.7)	A (4.2)
Union Street SB approach		
Left	A (0.3)	A (0.1)
Olive Street and Wooster Street		
Olive Street SB approach		
Left	A (2.3)	A (9.3)
Water Street and Union Street		
Water Street EB approach		
Left	A (0.7)	A (0.2)
Union Street SB approach	B (14.0)	D (30.5)
Left	C (15.3)	D (33.8)
Right	B (11.3)	B (10.5)

Source: Wilbur Smith Associates

As shown in Table 3.4, the un-signalized intersections in the study area operate at a level of service LOS D or better on the minor street movement. **Figure 3.7** represent the results of the level of service analysis during the A.M. and P.M. peak hour periods.


Not To Scale
N. Frontage Rd.
George St.
ONE WAY
Crown St.
Chapel St.
State St.
ONE WAY
State St.
ONE WAY
Water St.
Union St.
Fair St.
Olive St.
Wooster St.
ONE WAY
C
C
A
B
B*
D*
B*
B*
A
B
A
B
C
D
LEGEND
A — A.M.
B — P.M.
* Denotes level of service of the side street.

3.5 Intersection Sight Distance Analysis

Intersection sight distances were measured at the Union Street/Fair Street intersection in the study area. This intersection is currently STOP sign controlled on Fair Street. The intersection sight distance requirements are based on a posted speed limit of 25 miles hour. The results of these measurements are provided in **Table 3.5**.

Table 3.5
Intersection Sight Distances

Intersection	Looking Left (in feet)		Looking Right (in feet)	
	Existing	Required	Existing	Required
Fair Street EB at Union Street	220’	280’	370’	280’
Fair Street WB at Union Street	160’	280’	510’	280’

Source: ConnDOT 2003 Highway Design Manual.

As indicated in Table 3.5, the sight line requirement is not met looking left from eastbound Fair Street towards Union Street. The same issue is noted looking left from westbound Fair Street towards Union Street.

CHAPTER 4 – DEVELOPMENT OF ALTERNATIVES

4.1 List of Alternatives

Based on discussions with the City and stakeholders from the Downtown Wooster Square Management Team, both vehicular and non-vehicular connections to Olive Street are considered as possible alternatives. Vehicular connections include the provision of sidewalks on both sides of the roadway. Non-vehicular connections include a shared use path to Olive Street.

Per discussions with City Engineering Department, it was assumed under each alternative that the existing portion of Fair Street would be re-constructed to its current cross-section. The new portion of Fair Street would be constructed to City standards. The following is a list of alternatives under consideration:

- ***No Build or Do-Nothing Alternative***

- ***Vehicular Connections***
  - Alternative 1A – Vehicular Connection to Olive Street
  - Alternative 1B – Vehicular Connection to Wooster Street

- ***Non-vehicular Connection***
  - Alternative 2 - Pedestrian/Bicycle Connection to Olive Street

4.2 No Build Alternative

Under this alternative, Fair Street will remain a dead-end roadway in its current condition. Therefore, this alternative is the least expensive.

4.3 Vehicular Connection Alternatives

There are two options within this alternative. The first option extends Fair Street directly to Olive Street (**Figure 4.1**). The second option extends Fair Street directly opposite Wooster Street (**Figure 4.2**). Under both options, the existing portion of Fair Street will be re-constructed to its current cross-section of approximately 35 feet. Based on City standards, the new portion of Fair Street will be constructed to a 50 foot cross-section which will include sidewalks on both sides. This alternative will be the most expensive.

It is important to note that the commercial properties located to the north and south of the proposed Fair Street extension are currently vacant. Alternative 1B considers acquiring the commercial building on the north side therefore, has a larger property impact.

Scale: 1"=60'

Union St.

Wooster St.

Olive St.

Fair St.

REPLACE CONCRETE SIDEWALK (TYP.)

FULL DEPTH PAVEMENT RECONSTRUCTION

Existing Right of Way

PROPOSED RIGHT OF WAY

PROPOSED CONCRETE SIDEWALK (TYP.)

PROPOSED FULL DEPTH PAVEMENT

13'

12'

4'

15'

15'

Existing Right of Way

REPLACE GRANITE CURB (TYP.)

REPLACE CHAIN LINK FENCE (TYP.)

PROPOSED RIGHT OF WAY

PROPOSED GRANITE CURB (TYP.)

PROPOSED CHAIN LINK FENCE (TYP.)

PROPOSED LANDSCAPED AREA OR BRICK PAVERS

PROPOSED TRAFFIC SIGNAL

WilburSmith ASSOCIATES

ALTERNATIVE 1A - VEHICULAR AND PEDESTRIAN CONNECTION TO OLIVE STREET

FIGURE 4.1

WilburSmith ASSOCIATES

ALTERNATIVE 1B - VEHICULAR AND PEDESTRIAN CONNECTION TO WOOSTER STREET

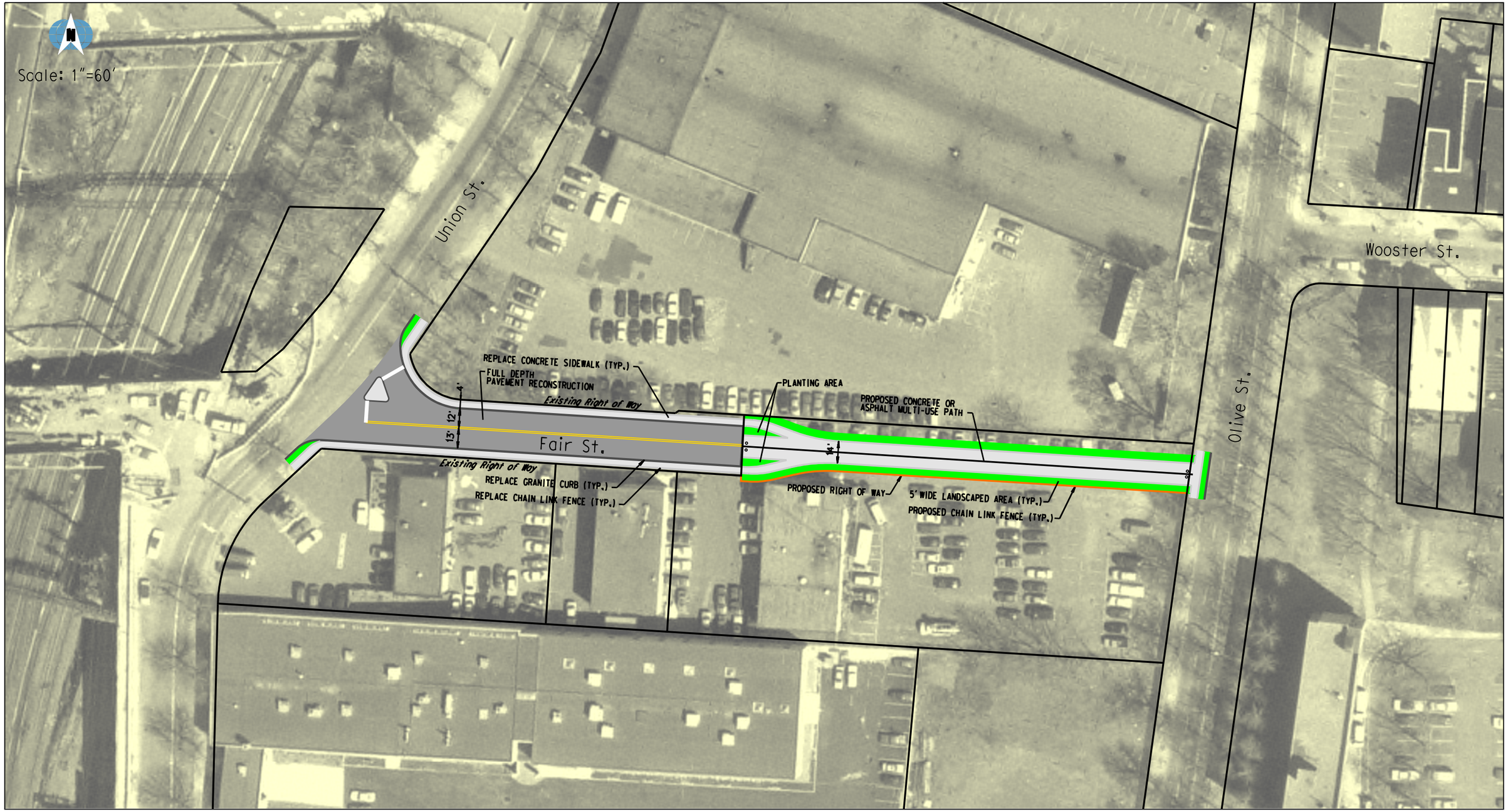
FIGURE 4.2

4.4 Non-vehicular Connection Alternative

The non-vehicular option provides a pedestrian and bicycle connection as a shared use path 14 feet wide to Olive Street (**Figure 4.3**). The existing Fair Street portion will continue to allow vehicular traffic to provide access to existing businesses. Under this alternative, the existing portion will be re-constructed to its current cross-section of approximately 35 feet.

4.5 Public Meeting

In the April 15 meeting with the Downtown Wooster Square Management Team, the above alternatives were presented and input was received from the interested parties. At the final presentation on May 20, these alternatives were presented with some refinement per discussions with the City of New Haven and additional input was gathered in this process.



WilburSmith ASSOCIATES

ALTERNATIVE 2 - PEDESTRIAN AND BICYCLE CONNECTION

FIGURE 4.3

CHAPTER 5 – EVALUATION OF ALTERNATIVES

5.1 Future (2015) Traffic Volumes

A review of peak hour traffic volumes indicate that P.M. peak hour is a higher traffic condition than the A.M. peak hour period. Also, Wooster Street is a one-way roadway away from Olive Street and therefore, a Fair Street connection to Olive Street would facilitate traffic circulation from downtown to Wooster Street more during the P.M. than the A.M. peak hour period. For the above reasons, P.M. peak hour period was selected as the critical time period for evaluating the alternatives.

Based on discussions with City staff, existing traffic volumes were projected to a future year (2015) using a 2 percent per year growth factor. In addition, the City indicated that two existing parking lots identified as Lot M and Lot O will be re-developed into residential and office space. However, it is anticipated that future traffic generated due to the re-development of Lots M and O would offset existing traffic using the parking lots. Therefore, no additional traffic was added due to the re-development of Lots M and O.

A review of major approved developments in the City was conducted and it was noted that the following developments would have a traffic impact in the study area:

- ***Coliseum Parking Lot*** – This parking lot is now under operation but was not included in the existing volumes.

- ***360 State Street Development*** – This project has been approved by the City and is a mixed use development consisting of residential, retail, daycare, and grocery uses.

Other approved developments by the City such as Gateway and Cancer Center do not add traffic to roadways within the study area. **Figure 5.1** illustrates future (2015) base P.M. peak hour traffic volumes for the study area.

5.2 Traffic Volume Diversions

As stated in Section 3.3, there are four different routes motorists currently use to travel from George Street to Wooster Street and they are:

- George Street to Wooster Street via State Street, Chapel Street, and Olive Street.
- George Street to Wooster Street via Fair Street, Union Street, Chapel Street, and Olive Street.
- George Street to Wooster Street via Fair Street, Union Street, Water Street, and Olive Street.
- George Street to Wooster Street via State Street, Water Street, and Olive Street.

Extending Fair Street to Olive Street would create a direct route from George Street to Wooster Street. In the reverse direction, a Fair Street extension opens up opportunity for motorists on Water Street to use Olive Street, Fair Street, and then State Street into downtown.

Based on existing traffic patterns, future (2015) base P.M. peak hour traffic volumes were diverted to reflect the extension of Fair Street. These diversions only apply to Alternatives 1A and 1B as they are the vehicular connection options. **Figures 5.2** and **5.3** illustrate traffic diversions under Alternatives 1A and 1B respectively.

Figures 5.4 and **5.5** illustrate future (2015) P.M. peak hour traffic volumes under Alternatives 1A and 1B respectively.

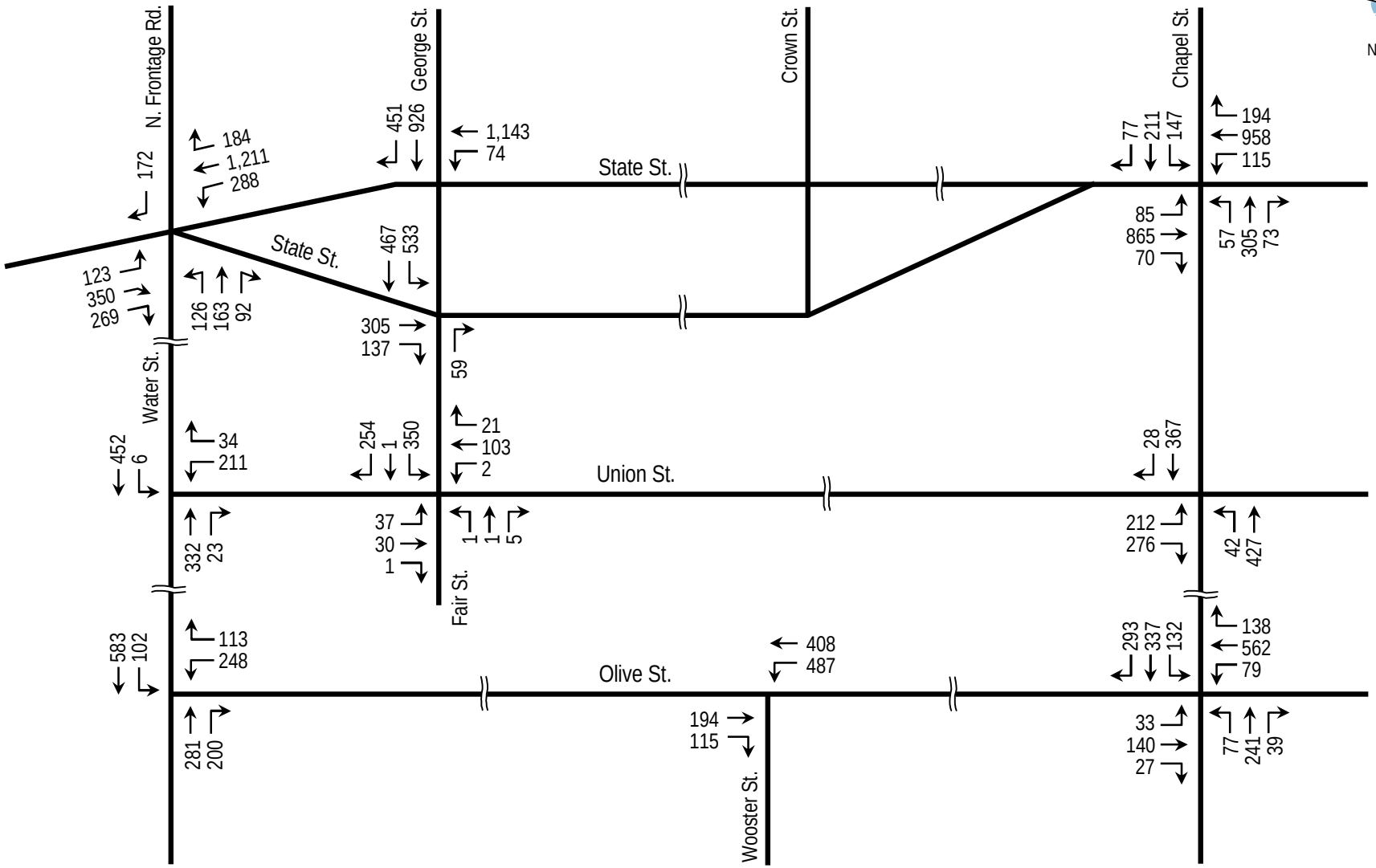
5.3 Future (2015) Level of Service Analysis

Table 5.1 details results of the level of service analysis under future (2015) peak hour traffic volume conditions for the No Build, Alternative 1A, Alternative 1B, and Alternative 2.

Table 5.1
Future (2015) Level of Service for Signalized Intersections

Intersection	**Future (2015) P.M. Peak Hour**			
	No Build	**Alt. 1A**	**Alt. 1B**	**Alt. 2**
Chapel Street and Union Street	**B(11.5)**	**A(9.0)**	**A(9.0)**	**B(11.5)**
Chapel Street EB approach	A (0.9)	A (0.9)	A (0.9)	A (0.9)
Through-Right	A (0.9)	A (0.9)	A (0.9)	A (0.9)
Chapel Street WB approach	A (2.4)	A (2.7)	A (2.7)	A (2.4)
Left-Through	A (2.4)	A (2.7)	A (2.7)	A (2.4)
Union Street NB approach	D (37.8)	D (38.1)	D (38.1)	D (37.8)
Left	D (38.3)	D (39.1)	D (39.1)	D (38.3)
Right	D (37.8)	D (37.9)	D (37.9)	D (37.8)
Chapel Street and Olive Street	**E (68.3)**	**E (70.7)**	**E (70.7)**	**E (68.3)**
Chapel Street EB approach	B (19.7)	B (18.5)	B (18.5)	B (19.7)
Left-Through-Right	B (19.7)	B (18.5)	B (18.5)	B (19.7)
Chapel Street WB approach	B (15.9)	B (15.4)	B (15.4)	B (15.9)
Left	B (18.7)	B (16.4)	B (16.4)	B (18.7)
Through-Right	B (15.2)	B (15.2)	B (15.2)	B (15.2)
Olive Street NB approach	B (19.7)	B (19.7)	B (19.7)	B (19.7)
Left-Through-Right	B (19.7)	B (19.7)	B (19.7)	B (19.7)
Olive Street SB approach	F (152.4)	F (152.4)	F (152.4)	F (152.4)
Left-Through-Right	F (152.4)	F (152.4)	F (152.4)	F (152.4)

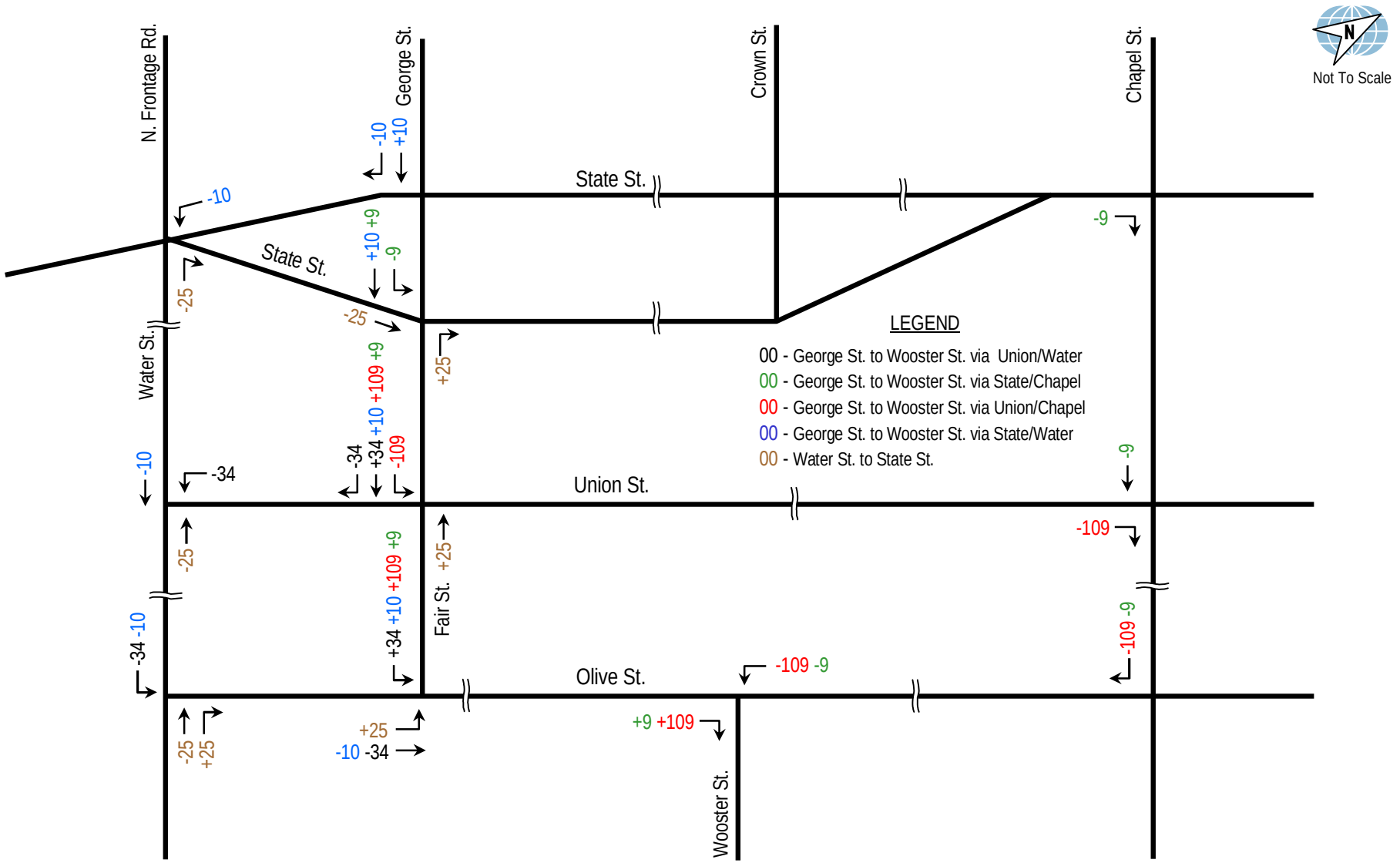
Source: Wilbur Smith Associates

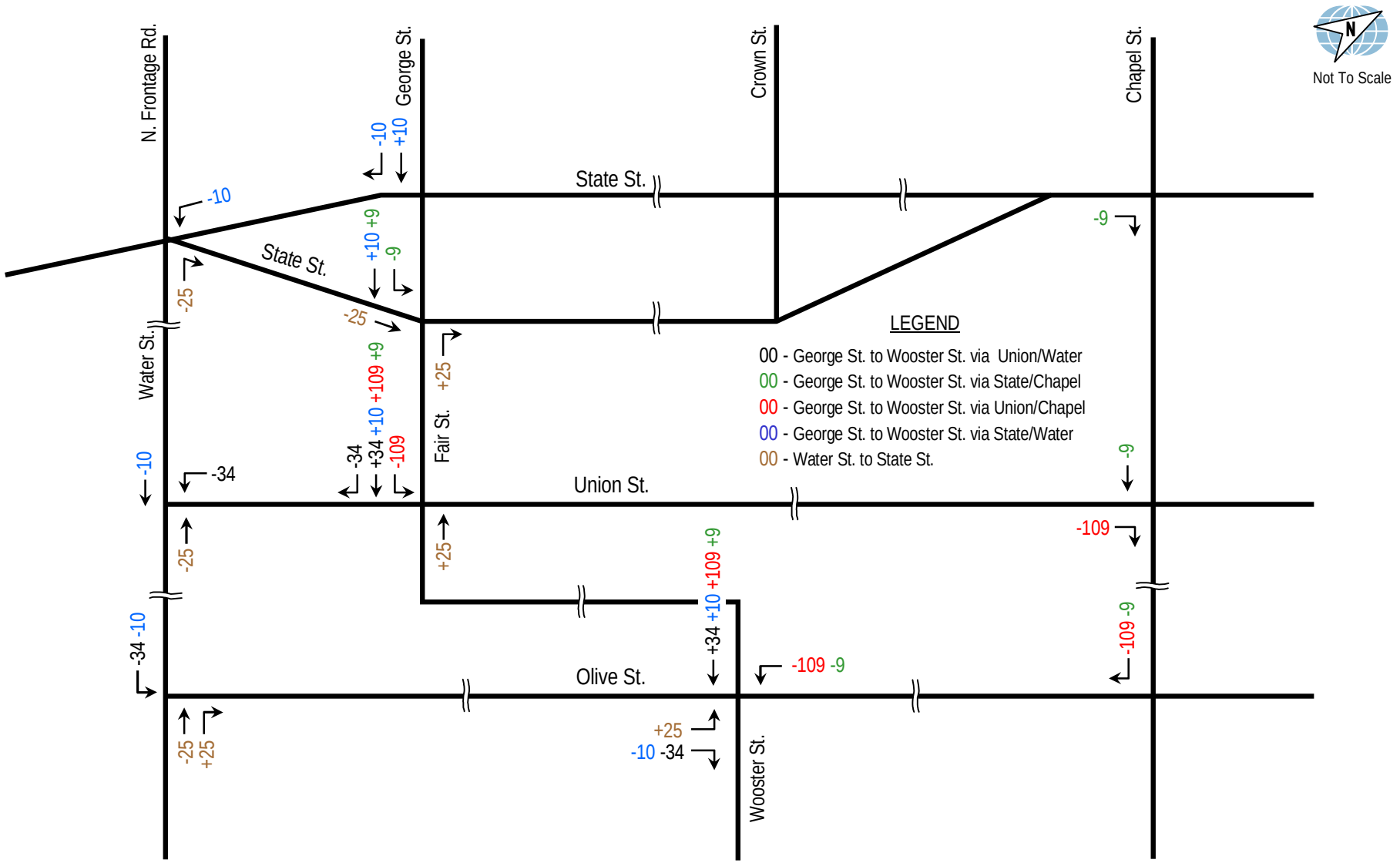


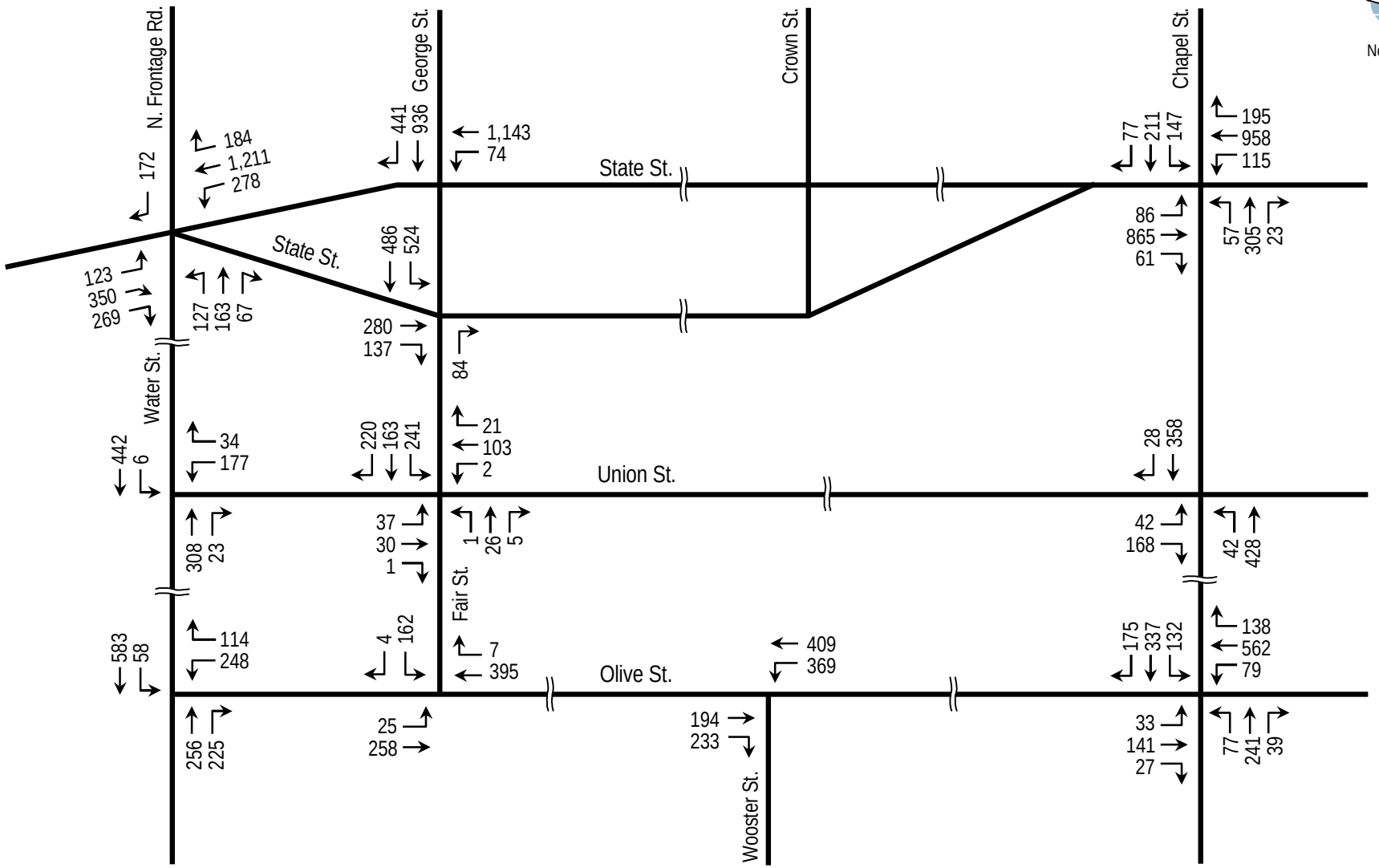
WilburSmith ASSOCIATES

2015 NO-BUILD P.M. PEAK HOUR TRAFFIC VOLUMES

FIGURE 5.1


N
Not To Scale
N. Frontage Rd.
George St.
Crown St.
Chapel St.
State St.
State St.
Water St.
Union St.
Fair St.
Olive St.
Wooster St.
LEGEND
00 - George St. to Wooster St. via Union/Water
00 - George St. to Wooster St. via State/Chapel
00 - George St. to Wooster St. via Union/Chapel
00 - George St. to Wooster St. via State/Water
00 - Water St. to State St.

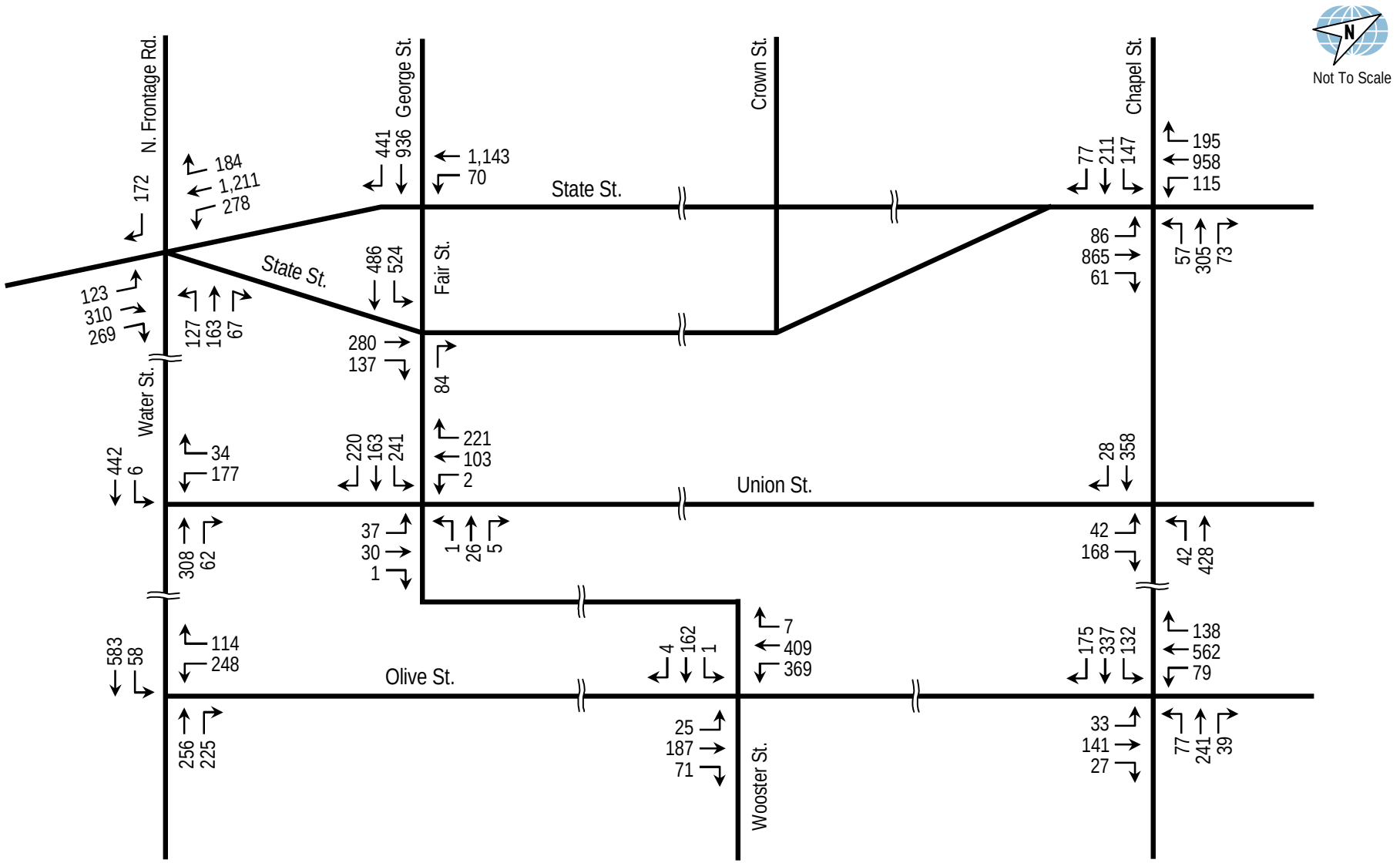

N
Not To Scale
N. Frontage Rd.
George St.
Crown St.
Chapel St.
State St.
State St.
Water St.
Fair St.
Union St.
Olive St.
Wooster St.
-10
+10
-10
+10 +9
-9
-25
-25
-9
LEGEND
00 - George St. to Wooster St. via Union/Water
00 - George St. to Wooster St. via State/Chapel
00 - George St. to Wooster St. via Union/Chapel
00 - George St. to Wooster St. via State/Water
00 - Water St. to State St.
-10
-34
-34 +34 +10 +109 +9
-109
+25
+25
-9
-25
-109
+34 +10 +109 +9
-34 -10
-109 -9
-109 -9
-25 +25
+25
-10 -34



WilburSmith ASSOCIATES

2015 BUILD P.M. PEAK HOUR TRAFFIC VOLUMES - ALTERNATIVE 1A

FIGURE 5.4



WilburSmith ASSOCIATES

2015 BUILD P.M. PEAK HOUR TRAFFIC VOLUMES - ALTERNATIVE 1B

FIGURE 5.5

Table 5.1 Continued
Future (2015) Level of Service for Signalized Intersections

Intersection	Future (2015) P.M. Peak Hour			
	No Build	**Alt. 1A**	**Alt. 1B**	**Alt. 2**
Water Street and Olive Street	**B (17.9)**	**B (16.4)**	**B (16.4)**	**B (17.9)**
Water Street EB approach	B (16.2)	B (13.0)	B (13.0)	B (16.2)
Left-Through	B (16.2)	B (13.0)	B (13.0)	B (16.2)
Water Street WB approach	A (6.7)	A (6.6)	A (6.6)	A (6.7)
Through	A (7.1)	A (6.9)	A (6.9)	A (7.1)
Right	A (6.1)	A (6.3)	A (6.3)	A (6.1)
Olive Street SB approach	D (35.9)	D (35.2)	D (35.2)	D (35.9)
Left-Right	D (35.9)	D (35.2)	D (35.2)	D (35.9)
Chapel Street and State Street	**F (176.3)**	**F (174.9)**	**F (174.9)**	**F (176.3)**
Chapel Street EB approach	F (165.1)	F (165.1)	F (165.1)	F (165.1)
Left-Through-Right	F (165.1)	F (165.1)	F (165.1)	F (165.1)
Chapel Street WB approach	B (12.4)	B (14.5)	B (14.5)	B (12.4)
Left-Through-Right	B (12.4)	B (14.5)	B (14.5)	B (12.4)
State Street NB approach	F (231.5)	F (226.9)	F (226.9)	F (231.5)
Left	D (41.6)	D (43.2)	D (43.2)	D (41.6)
Through-Right	F (249.1)	F (244.0)	F (244.0)	F (249.1)
State Street SB approach	F (191.8)	F (191.8)	F (191.8)	F (191.8)
Left	D (47.2)	D (47.2)	D (47.2)	D (47.2)
Through	F (240.0)	F (240.0)	F (240.0)	F (240.0)
Right	D (40.9)	D (40.9)	D (40.9)	D (40.9)
George Street and State Street SB	**D (35.1)**	**C (27.9)**	**C (27.9)**	**D (35.1)**
George Street EB approach	C (22.5)	C (22.7)	C (22.7)	C (22.5)
Through	C (25.4)	C (25.6)	C (25.6)	C (25.4)
Right	B (16.6)	B (16.5)	B (16.5)	B (16.6)
State Street SB approach	D (49.3)	C (33.8)	C (33.8)	D (49.3)
Through-Right	D (49.3)	C (33.8)	C (33.8)	D (49.3)

Source: Wilbur Smith Associates

Table 5.1 Continued
Future (2015) Level of Service for Signalized Intersections

Intersection	**Future (2015) P.M. Peak Hour**			
	No Build	**Alt. 1A**	**Alt. 1B**	**Alt. 2**
Fair St. and State St. NB	**B (13.8)**	**B (10.8)**	**B (11.3)**	**B (13.8)**
George Street EB approach	B (14.7)	A (8.8)	A (9.5)	B (14.7)
Left	B (17.9)	B (10.2)	B (11.3)	B (17.9)
Through	B (11.2)	A (7.2)	A (7.6)	B (11.2)
Fair Street WB approach	A (6.0)	A (5.8)	A (5.8)	A (6.0)
Right	A (6.0)	A (5.8)	A (5.8)	A (6.0)
State Street NB approach	B (12.6)	B (16.8)	B (16.8)	B (12.6)
Through-Right	B (12.6)	B (16.8)	B (16.8)	B (12.6)
Fair St. and Olive Street	**-**	**A (8.8)**	**A (7.2)**	**-**
Fair Street EB approach	-	B (14.5)	B (16.4)	-
Left-Through-Right	-	B (14.5)	B (16.4)	-
Olive Street NB approach	-	A (7.0)	A (4.7)	-
Left-Through-Right	-	A (7.0)	A (4.7)	-
Olive Street SB approach	-	A (7.7)	A (6.1)	-
Left	-	-	A (7.1)	
Through-Right	-	A (7.7)	A (5.2)	-

Source: Wilbur Smith Associates

As shown in the above tables, under Alternatives 1A and 1B, many intersections show a marginal improvement in the levels of service compared to the No Build condition. **Table 5.2** details the level of service for un-signalized intersections.

Table 5.2
Future (2015) Level of Service for Un-signalized Intersections

Intersection	Future (2015) P.M. Peak Hour			
	No Build	**Alt. 1A**	**Alt. 1B**	**Alt. 2**
Fair Street and Union Street				
Fair Street EB approach	B (14.3)	B (14.9)	B (14.9)	B (14.3)
Left	C (16.9)	B (14.4)	B (14.4)	C (16.9)
Through-Right	B (10.6)	C (15.2)	C (15.2)	B (10.6)
Fair Street WB approach				
Left-Through-Right	A (9.7)	B (10.8)	B (10.8)	A (9.7)
Union Street NB approach				
Left	A (4.2)	A (4.2)	A (4.2)	A (4.2)
Union Street SB approach				
Left	A (0.1)	A (0.1)	A (0.1)	A (0.1)
Olive Street and Wooster Street				
Olive Street SB approach				
Left	A (8.5)	A (7.7)	-	A (8.5)
Water Street and Union Street				
Water Street EB approach				
Left	A (0.2)	A (0.2)	A (0.2)	A (0.2)
Union Street SB approach	E (40.3)	D (28.7)	D (28.7)	E (40.3)
Left	E (45.0)	D (32.2)	D (32.2)	E (45.0)
Right	B (10.7)	B (10.5)	B (10.5)	B (10.7)

Source: Wilbur Smith Associates

As shown in Table 5.2, the un-signalized intersections in the study area operate at a level of service LOS D or better on the minor street movement. Similar to the signalized intersections, many traffic movements show an improvement in level of service under Alternatives 1A and 1B compared to the No-Build condition.

5.4 Roadway System Performance

A Synchro/SimTraffic traffic model was developed to assess the potential traffic benefit in re-opening Fair Street. This model provides a list of common performance measures which can be used for comparing alternatives and they are defined below:

- **Average Delay** - Defined as the amount of delay or "wait" time experienced by a vehicle while traversing a roadway segment. This delay is the amount of time a vehicle is stopped on the roadway segment. Average delay is measured in seconds per vehicle. Average delay should be low for good performance.

- **Vehicle Miles Traveled (VMT)** - Defined as the total number of miles traveled in an automobile or another vehicle in the project area. VMT is measured in miles. VMT should be high for good performance.

- **Vehicle Hours Traveled (VHT)** - Defined as the total number of hours traveled in an automobile or another vehicle in the project area during a given time period. VHT is measured in hours. VHT should be low for good performance.

A Synchro/SimTraffic model was developed for 2015 No Build, Alternative 1A, and Alternative 1B conditions during the P.M. peak hour period. The model results are tabulated in Table 5.3 and explained in Section 5.6.

5.5 Order of Magnitude Cost Estimates

Order of magnitude cost estimates were prepared for each of the alternatives as explained in Chapter 4. Unit prices for items used in the estimate are based on 2007 dollars. Right-of-way and any environmental mitigation costs are not included in this estimate. A detailed breakdown of quantities and costs is provided in the back of this Report. Table 5.3 shows the costs associated with each alternative.

5.6 Comparison of Alternatives

Table 5.3 compares the No Build Alternative with Alternatives 1A, 1B, and 2. The criterion used in comparing these alternatives is based on traffic analysis, cost estimates, and potential for pedestrian/bicycle connectivity. The following explains results of the comparison:

- **Average Delay** – Alternatives 1A and 1B show a reduction in average delay of about 20 percent over the No Build condition.

- **Vehicle Miles Traveled (VMT)** – The VMT under each alternative is about the same.

- **Vehicle Hours Traveled (VHT)** – Alternatives 1A and 1B show a reduction in VHT of about 15 percent over the No Build condition.

Table 5.3
Comparison of Alternatives

Criteria	No Build	Vehicular Options		Non-vehicular Option
		Alt 1A	Alt 1B	Alt 2
Quantitative				
Average Delay (seconds/veh.)	458.6	375.5	380.0	458.6
Vehicle miles traveled (miles)	1724.0	1766.2	1702.2	1724.0
Vehicle hours traveled (hours)	811.2	692.5	679.4	811.2
Cost (dollars)	$0	$876,000	$951,000	$470,000
Right of Way (sq. ft.)	0	14,500	28,000	9,300
Qualitative				
Pedestrian Connectivity	No	Yes	Yes	Yes
Bicycle Connectivity	No	No	No	Yes
Right of Way/Property	No	Yes	Yes	Yes

- **Cost** – Alternative 1B is the most expensive option followed by Alternative 1A. The costs are nearly double the cost of providing a non-vehicular option (Alternative 2). Since, the No Build option has no roadway improvements and maintains existing roadway condition, it has a zero cost.

- **Right of Way (sq. ft.)** – Right-of-way take is the highest for Alternative 1B because of its proposed alignment. Alternative 1A requires less right-of-way than Alternative 1B with its direct connection to Olive Street. Alternative 2 has the least impact to right-of-way.

Overall, the vehicular connection alternatives (Alternatives 1A and 1B) do show transportation benefits relative to delay and travel time, but the costs associated with these options outweigh the benefits.

CHAPTER 6 – FINDINGS AND NEXT STEPS

6.1 Findings and Observations

The following is a list of findings from the Fair Street extension study:

1. Based on a review of existing travel patterns, motorists using George Street will have a benefit on the Fair Street extension.

2. The vehicular connection options are nearly double the cost of non-vehicular connection options.

3. There is a reduction in average delay and travel time when Fair Street is extended to Olive Street and Wooster Street.

4. Additional right of way will be required to build the Fair Street extension.

5. During the public participation process, the Downtown Wooster Square Management Team expressed a strong interest in a pedestrian/bicycle connection on Fair Street.

6. The Union Street/Fair Street intersection currently poses a safety problem with limited sight distance and therefore, should be investigated further for any traffic control improvements.

7. A number of existing land uses in the project area are currently vacant and therefore, provide an opportunity to the City for future re-development.

6.2 Next Steps

At the request of the City, this study has evaluated potential benefits, costs, and impacts associated with re-opening Fair Street to improve traffic and pedestrian circulation in the Wooster Square area. The study determined that the transportation benefits of providing a vehicular or non-vehicular connection are limited relative to the overall cost of these improvements at this time. These improvements are currently cost prohibitive to the City. If the City desires to reopen Fair Street, they should investigate opportunities to have the connection fully or partially funded as part of private redevelopment in the area.

The City is currently redeveloping the 360 State Street site and looking into redeveloping the Coliseum site to encourage mixed use and transit oriented development. Similar opportunities exist along Fair Street given its proximity to the State Street train station and the Downtown. To provide for these redevelopment opportunities, the City may need to review existing land use and zoning along Fair Street.

SUMMARY OF MEETING

Date:	December 18, 2007	
Project:	**Southeast Downtown Circulation Study** South Central Regional Council of Governments (SCRCOG)	
CHA Project No.:	17202	
Date of Meeting:	**December 14, 2007 – 11:30 a.m.**	
Location of Meeting:	SCRCOG Headquarters, 127 Washington Avenue, North Haven, CT	
Purpose of Meeting:	**Project Kick-off with City of New Haven & SCRCOG**	
In Attendance:	Stephen Dudley	SCRCOG
	Kathryn Faraci	Connecticut Department of Transportation
	Mike Piscitelli	City of New Haven
	Sharat Kalluri	Wilbur Smith Associates
	Rod Bascom	Clough Harbour & Associates LLP (CHA)
	Jeff Parker	CHA

Summary of Meeting Discussion:

- City to provide a list of stakeholders and earlier reports
- Combined public meeting in mid-March with Route 10 Study
- Identify the public right of way
- Include Lot M and Lot D – build outs
- Traffic signal warrant analysis requested by City
- Study area identified in the map was acceptable to the City
- Diversions based on traffic count data
- WSA will extend Synchro model to include Union Street and Olive Street
- Conceptual Plans prepared on aerial mapping
- Cost estimate for extending Fair Street – By mid March
- Add “Cost Estimates” in the Evaluation Matrix
- 5 month schedule for this project.

Submitted By: **Sharat Kalluri** **Date:** **12/19/07**

SUMMARY OF MEETING

Date:	March 19, 2008
Project:	**Southeast Downtown Circulation Study** South Central Regional Council of Governments (SCRCOG)
CHA Project No.:	17202
Date of Meeting:	**March 18, 2008 – 6:00 p.m.**
Location of Meeting:	Meeting Room 2, City Hall, New Haven, CT
Purpose of Meeting:	**Downtown/Wooster Square Neighborhood Management Meeting**
In Attendance:	Stephen Dudley — SCRCOG Mike Piscitelli — City of New Haven Bijan Notghi — City of New Haven Karyn Gilvarg — City of New Haven Tony Bialecki — City of New Haven Karl Smith — Wilbur Smith Associates Jeff Parker — CHA Downtown/Wooster Square Management Members

Summary of Meeting Discussion:

- Karl Smith presented project objectives, purpose and existing conditions.
- Goal of the meeting was to solicit input into the idea of reconnecting Fair Street and providing a connection between Downtown and Wooster Street.
- Consultant has performed an existing conditions analysis which is being reviewed with the City.
- Once input is received, consultant will work with the City and SCRCOG to develop and refine alternatives.
- Floor was opened up for discussion among neighborhood management team:
    - A question was raised as to whether projected traffic would be used to develop alternatives in light of the existing congestion on Wooster Street and potential development at the former Coliseum site. Consultant responded that projections would be used and traffic diversion calculated in coordination with City staff.
    - Parking is very difficult on Wooster Street. Water Street provides a good connection from Downtown to I-95.
    - Traffic circulation at Olive/Chapel Streets is an issue; the lane drop on EB Chapel is confusing. Buses cannot navigate turns from Olive/Chapel. Might be land available at Comcast. It was indicated that the bus issue is a temporary problem until the Grand Ave. Bridge is reopened.
    - 1999 Michael Buckley Study looked at reconnecting Crown Street to Wooster Street and encouraged pedestrian activity. This study should also promote pedestrian connectivity.
    - I-95 ramp from Wooster Street is to remain as new Q Bridge/Interchange construction.
    - Question was raised about funding sources. M. Piscitelli indicated that this would probably come from a combination of capital improvement funds and the potential of a public/private partnership.

- It is important to promote the marketability of New Haven in terms of land use and businesses, particularly as a link between Downtown Wooster Square and Fair Haven.
- State Street and the railroad tracks are a barrier between Downtown and Wooster Square.
- Traffic could be heavy along a new Fair Street connection. Consultant will be working with the City to determine the potential future traffic.
- Crown Street to Wooster Street is more of a straight shot. Fair Street requires a "jog" to get to Wooster Street. Consultant indicated that the alignment of Fair Street will be evaluated.
- Need more pedestrian connectivity across the railroad tracks.
- Economic development throughout the City is important.
- Fair Street is not pedestrian friendly, particularly crossing State Street. The crossing of Union Street is also difficult. Consultant indicated that the sight distance at Fair/Union will be examined.
- Chapel Street can be made more pedestrian friendly. The Fair Street connection could relieve traffic congestion along Chapel Street.
- Fair Street connection might not be a preferred pedestrian route to Wooster Square unless sufficient lighting and pedestrian-scale land uses are provided to support pedestrian activity along Fair Street.
- Walkability to the train station is important.

Submitted By: Karl Smith – Wilbur Smith Associates **Date: 03/18/08**

SUMMARY OF MEETING

Date:	April 16, 2008
Project:	**Southeast Downtown Circulation Study** South Central Regional Council of Governments (SCRCOG)
CHA Project No.:	17202
Date of Meeting:	**April 15, 2008 – 6:00 p.m.**
Location of Meeting:	Meeting Room 2, City Hall, New Haven, CT
Purpose of Meeting:	**Downtown/Wooster Square Neighborhood Management Meeting**
In Attendance:	Karl Smith Wilbur Smith Associates Downtown/Wooster Square Management Members

Summary of Meeting Discussion:

- Karl Smith provided a brief summary of the project for attendees that were not present at the last meeting. He then presented conceptual layouts of each of the alternatives.
- Consultant is currently performing more detailed concepts including engineering cost estimates and appropriate roadway design features.
- Consultant continues to work with the City traffic and parking and engineering departments.
- Next steps will include a meeting presenting recommendations and a final report to the City.
- Floor was opened up for discussion among neighborhood management team:
    - Question was raised as to what prompted the study. Did the Wooster Square merchants request this? K. Smith indicated that the City has asked us to look at these concepts, but not sure whether the merchants specifically requested such a study. Consultant will check with the City.
    - The bike/pedestrian alternative is obviously more pedestrian-friendly.
    - Under current conditions and land use, this area is dangerous for pedestrians, however.
    - Question was raised as to whether Crown Street connection was looked at. K. Smith indicated that this question was raised before. There was a structure over the railroad at Crown Street, but this was removed. This would be en expensive and lengthy project to reconstruct. The City had asked us to look specifically at Fair Street.
    - Under the bike/ped alternative, would there be any type of buffer between the path and adjacent properties. The answer is not clear at this point as this project may be constructed as a result of potential land use changes along the corridor.
    - Weekends may be congested on Olive Street as a result of this new link, particularly with people getting to Wooster Street in the evenings.
    - We will need to coordinate the signals on Olive Street at Chapel, Wooster and Fair Streets.
    - The bike/ped option will not be useful without land use changes along the corridor.

- K. Smith indicated that land use changes are most likely to drive this project.
- It would be useful to see a larger scale map of land use and potential developments to put this project in context.

Submitted By: _Karl Smith – Wilbur Smith Associates **Date:_04/16/08**

SUMMARY OF MEETING

Date:	May 20, 2008
Project:	**Southeast Downtown Circulation Study** South Central Regional Council of Governments (SCRCOG)
CHA Project No.:	17202
Date of Meeting:	**May 20, 2008 – 6:00 p.m.**
Location of Meeting:	Meeting Room 2, City Hall, New Haven, CT
Purpose of Meeting:	**Downtown/Wooster Square Neighborhood Management Meeting**
In Attendance:	Sharat Kalluri — Wilbur Smith Associates Karl Smith — Wilbur Smith Associates Steve Dudley — SCRCOG Downtown/Wooster Square Management Members

Summary of Meeting Discussion:

- Sharat Kalluri presented the final list of alternatives, results of the evaluation, the recommendations of this study.
- Floor was opened up for discussion among neighborhood management team:
  - Question was raised on the potential impacts due to the redevelopment of Coliseum Site and addition of traffic to the Wooster Square neighborhood.
  - Is Olive Street cross-section wide enough to accommodate additional traffic?
  - What about cost of property acquisition?
  - Was Water Street considered in the traffic analysis?
  - Was data skewed with Grand Street bridge closed?
  - Is getting more traffic on Wooster Street a good idea?
  - Why did City want to study this?
  - Was speed considered?

Both WSA and the SCRCOG responded to the above questions.

Submitted By: **Sharat Kalluri – Wilbur Smith Associates** **Date:05/21/08**

SIGN-IN SHEET

Southeast Downtown Circulation Study

Public Meeting

Tuesday, April 15, 2008

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Bonnie Rosenberg	Wooster Sq.	roselo@comcast.net	772-2367
RENATE RECKNAGEL	" OLIVE ST		777-0090
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BENJAMIN GARDNER	DWSCMT, CIMSERO	BENJAMINJG@GMAIL.COM	
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Leigh Roberts			
Doug Hausladen	downtown property manager	douglas.hausladen@aya.yale.edu	206 676 8330

SIGN-IN SHEET

Southeast Downtown Circulation Study

Public Meeting

Tuesday, May 20, 2008

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