

# Memorandum



BRW INC.

**DATE:** January 30, 1997

**TO:** Susan Killen, Parsons Brinckerhoff

**FROM:** Howard Preston, PE  
Jeff Holstein, PE

**RE:** Revised Draft  
Cincinnati - Fort Washington Way Traffic Operations  
Using Revised Forecasts and Methodology

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We have reevaluated the traffic operations for the Fort Washington Way Subcorridor Analysis. This analysis, like the previous work, consisted of conducting capacity and weaving analysis for five future conceptual freeway alternatives and documenting the resulting conclusions. However, this analysis was conducted using revised traffic projections and more detailed methodology. This analysis is based on more refined estimates of peak hour volumes, more specific lane configurations, and other site-specific capacity assumptions.

This memorandum is organized into the following sections.

- I. Existing Conditions
- II. Description of Alternatives
- III. Traffic Forecasts
- IV. Traffic Analysis
  - Freeway Segment Capacity Analysis
  - Intersection Capacity Analysis
  - Weaving Analysis
- V. Conclusions

A discussion of each section follows.

## I. EXISTING CONDITIONS

The existing Fort Washington Way corridor is an east-west urban freeway segment located approximately 1/4 mile north of the Ohio River in Cincinnati, Ohio. The endpoints of the Fort Washington Way corridor are defined by the

common section between Interstate 71 (I-71) and US Highway 50 (US 50). This common segment is roughly 4,200 feet in length and provides six basic lanes (3/dir.) for through traffic flow. The common segment includes major weaving movements as US 50 joins I-71 on the left and departs on the right in both the eastbound and westbound directions.

The Cincinnati CBD is located to the north of Fort Washington Way. Cinergy Field, Riverfront Coliseum and other shipping/industrial related land uses are located to the south between Fort Washington Way and the Ohio River. There are currently two on-ramps and two off-ramps in this segment in both the eastbound and westbound directions. Three of the on-ramps are left-side and one of the off-ramps is left-side.

## II. DESCRIPTION OF ALTERNATIVES

Five future roadway alternatives were developed for the Fort Washington Way corridor:

### Alternative 1

No-Build or do nothing alternative. Rehabilitation of existing conditions in current configuration.

### Alternative 1A

No geometric changes from existing conditions. Rehabilitation of Fort Washington Way and implementation of Transportation System Management (TSM) measures and improvements.

### Alternative 2

Same as Alternative 1A plus:

- Pete Rose Way relocated onto existing widened ramps
- eliminates suspension bridge connections to and from I-71
- adds Sixth Street off-ramp
- no change in I-71 location or I-71/US 50 junctions

### Alternative 3C

Same as Alternative 1A plus:

- reconfigure Pete Rose Way
- add Sixth Street off-ramp
- eliminate suspension bridge connections to and from I-71

- move northbound I-71 to north, results in reclaiming 150 feet of Fort Washington Way right-of-way between Elm and Sycamore Streets
- no change in I-71/US 50 junctions
- eliminates left-side on and off ramps
- northbound I-71 only two lanes from Elm Street through tunnel

#### Alternative 5

Same as Alternative 1A plus:

- Third Street one-way westbound
- push northbound and southbound I-71 to north
- create Second Street to immediate south of northbound I-71 as a one-way eastbound roadway
- add Sixth Street off-ramp
- add I-471 northbound ramp to Ninth Street
- change Central Avenue to two-way between 3rd and 9th Streets
- provide ramp connections to/from I-71 to Second and Third Streets
- reclaims 250 to 300 feet of Fort Washington Way right-of-way between Elm and Sycamore Streets
- changes I-71/US 50 junctions as US 50 joins I-71 on left and departs on left in both eastbound and westbound directions
- Second Street and Third Street are elevated frontage roads
- all on and off ramps to Fort Washington Way are eliminated
- provides eight basic through lanes (4/dir.) along the freeway segment

### **III. TRAFFIC FORECASTS**

Traffic forecasts were prepared for the Year 2020 design year for each of the five roadway alternatives. Daily and peak hour traffic forecasts were prepared for various segments of the Fort Washington Way corridor and for other outlying freeway segments that may be impacted by the implementation of one or more of the alternatives. AM and PM peak hour turning movement traffic forecasts were also prepared for key intersection locations that would provide major access to/from the downtown Cincinnati area.

The traffic forecasts were prepared by KPMG Peat Marwick. Projected volumes at each of seventeen freeway segments for all five alternatives are documented in Table 1 and discussed in the Capacity Analyses portion of this document. Peak hour traffic forecasts along Fort Washington Way (used in the weaving analyses) are shown in figures included in the Appendix of this document.

#### IV. TRAFFIC ANALYSIS

The traffic analysis consisted of segment capacity analysis at seventeen regional freeway segment locations, intersection capacity analysis at eleven key locations, and weaving analysis for selected sections and alternatives. Separate analyses were conducted for both the AM and PM peak hour periods. The level of congestion indicator for the capacity analysis was assumed as the threshold between LOS D and LOS E.

##### A. Segment Capacity Analysis

Capacity analysis was conducted for seventeen freeway segments for the existing conditions and each of the five roadway alternatives. The methodology was consistent with the *Highway Capacity Manual* procedures for basic freeway segments. The analysis was based on the AM and PM peak hour traffic forecasts obtained from KPMG and on the following capacity assumptions:

- Terrain: Level or rolling, based on field observation
- Percent Trucks: Derived from ODOT traffic data
- Number of Lanes/Lane Width/Obstructions: Construction plans and field observation

The results of the freeway segment analysis are documented in Tables 1 and 2, and illustrated in Figure 1.

##### Freeway Segment Capacity Analysis Results:

- During the AM or PM peak hour, fourteen of the seventeen regional freeway segments currently operate at unacceptable levels of congestion (LOS E or LOS F), in at least one direction. Within Fort Washington Way, the existing level of congestion is LOS E in the peak direction and LOS D in the off-peak direction.
- Under Alternatives 1, 1A, 2 and 3C, fifteen of the seventeen regional freeway segments are expected to operate at unacceptable levels of congestion, including most of Fort Washington Way.
- Under Alternative 5, ten of the seventeen regional freeway segments are expected to operate at unacceptable levels of congestion. However, the level of congestion along Fort Washington Way is expected to be acceptable (LOS C/D).

**TABLE 1**  
**PROJECTED 2020 FREEWAY LEVEL OF SERVICE, AM PEAK HOUR**  
*Fort Washington Way Subcorridor Analysis*

Freeway Segment	Traffic Direction	Number of Lanes	Volume / LOS					
			Existing	Alt. 1	Alt. 1A	Alt. 2	Alt. 3C	Alt. 5
I-71 at Plum Street	EB	4	7,420 / E	6,189 / D	6,127 / D	6,127 / D	6,127 / D	5,572 / D
	WB	4	6,316 / D	6,707 / D	6,648 / D	6,504 / D	6,331 / D	4,559 / C
I-71 at Race Street	EB	3	6,129 / E	6,300 / E	6,300 / E	6,227 / D		** 5,572 / D
	WB	3	5,014 / D	5,163 / D	5,128 / D			** 4,559 / C
I-71 at Vine Street	EB	3	6,238 / E	6,300 / E	6,300 / E	6,227 / D		** 5,572 / D
	WB	3	5,103 / D	5,226 / D	5,171 / D			** 4,559 / C
I-71 at Sycamore Street	EB	3	6,002 / E	6,032 / E	6,032 / E	5,971 / E		** 5,572 / D
	WB	3	4,910 / D	4,935 / D	4,891 / D	4,821 / D	4,980 / D	** 4,559 / C
I-71 at Lyle Park Tunnel	NB	2	2,757 / D	3,114 / D	3,094 / D	3,178 / D	3,307 / D	2,638 / D
	SB	2	3,370 / D	3,366 / E	3,366 / E			3,225 / D
I-71 south of Taft	NB	5	4,248 / B	4,758 / C	4,721 / C	4,725 / C	4,677 / C	4,595 / C
	SB	4	5,897 / D	6,718 / D	6,637 / D	6,651 / D	6,623 / D	6,452 / D
I-75 south of Hopple Street	NB	4	7,274 / E	7,274 / E	7,274 / E	7,274 / E	7,274 / E	7,274 / E
	SB	4	7,274 / E	7,274 / E	7,274 / E	7,274 / E	7,274 / E	7,274 / E
I-71 at Ohio River	NB	4	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E
	SB	4	6,859 / E	6,156 / E	6,156 / E	6,156 / E	6,156 / E	6,156 / E
I-471 at Ohio River	NB	3	8,394 / E	8,459 / E	8,459 / E	8,459 / E	8,459 / E	8,459 / E
	SB	3	4,157 / D	4,516 / D	4,533 / D	4,526 / D	4,550 / D	4,737 / D
I-275 west of I-471	EB	3	2,585 / C	3,462 / C	3,369 / C	3,514 / C	3,456 / C	3,448 / C
	WB	3	2,522 / C	3,849 / D	3,873 / D	3,841 / D	3,909 / D	3,803 / D
I-71/I-75 north of I-275	NB	3	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E
	SB	4	6,249 / E	6,301 / E	6,301 / E	6,301 / E	6,301 / E	6,301 / E
I-71 south of I-275	NB	3	4,066 / D					
	SB	3						
I-71 south of Cross County Hwy.	NB	3	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E	6,165 / E
	SB	3	6,465 / E	6,965 / E	7,026 / E	7,026 / E	7,026 / E	7,026 / E
I-71 south of Nonwood Lateral	NB	4	4,984 / D	5,328 / D	5,322 / D	5,289 / D	5,272 / D	5,103 / D
	SB	4	5,927 / E	6,177 / E	6,177 / E	6,177 / E	6,177 / E	6,177 / E
I-75 south of I-275	NB	3	2,922 / C					
	SB	3	7,300 / E	7,300 / E	7,300 / E	7,300 / E	7,300 / E	7,300 / E
I-75 south of Nonwood Lateral	NB	3	6,930 / E	6,930 / E	6,930 / E	6,930 / E	6,930 / E	6,930 / E
	SB	3	7,160 / E	7,160 / E	7,160 / E	7,160 / E	7,160 / E	7,160 / E
I-75 south of Cross County Hwy.	NB	3	7,056 / E	7,056 / E	7,056 / E	7,056 / E	7,056 / E	7,056 / E
	SB	3	7,174 / E	7,174 / E	7,174 / E	7,174 / E	7,174 / E	7,174 / E

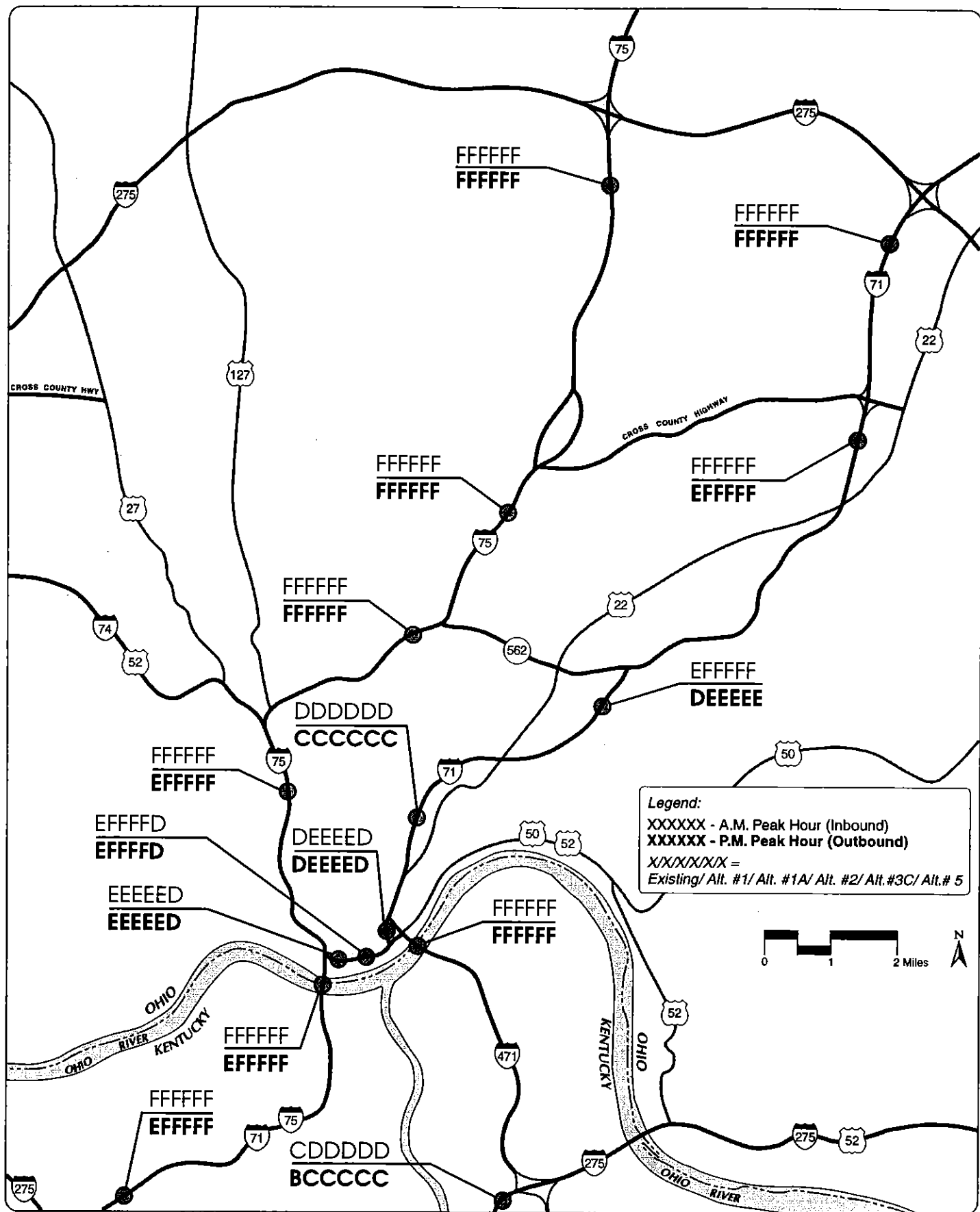
\* Only 2 lanes in the eastbound direction.  
 \*\* Four basic freeway lanes in each direction.

Source: BRW, Inc. and KPMG Peat Marwick

**TABLE 2**  
**PROJECTED 2020 FREEWAY LEVEL OF SERVICE, PM PEAK HOUR**  
*Fort Washington Way Subcorridor Analysis*

Freeway Segment	Traffic Direction	Number of Lanes	Volume/LOS					
			Existing	AIL 1	AIL 1A	AIL 2	AIL 3C	AIL 5
I-71 at Plum Street	EB	4	6,316 / D	6,707 / D	6,648 / D	6,504 / D	6,331 / D	4,559 / C
	WB	4	7,720 / E	8,189 / E	8,125 / E			5,572 / D
I-71 at Race Street	EB	3	5,014 / D	5,163 / D	5,128 / D			** 4,559 / C
	WB	3	6,129 / E	6,310 / E	6,288 / E			** 5,572 / D
I-71 at Vine Street	EB	3	5,103 / D	5,296 / E	5,249 / E			** 4,559 / C
	WB	3	6,238 / E	6,474 / E	6,407 / E			** 5,572 / D
I-71 at Sycamore Street	EB	3	4,910 / D	4,935 / D	4,891 / D	4,821 / D		** 4,559 / C
	WB	3	6,002 / E	6,032 / E	5,977 / E			** 5,572 / D
I-71 at Lyle Park Tunnel	NB	2	3,370 / D	3,805 / E	3,781 / E			3,225 / D
	SB	2	2,757 / D	3,114 / D	3,094 / D	3,178 / D	3,307 / D	2,638 / D
I-71 south of Taft	NB	5	4,828 / C	5,570 / C	5,543 / C	5,522 / C	5,522 / C	5,309 / C
	SB	4	4,033 / C	4,425 / C	4,451 / C	4,454 / C	4,441 / C	4,225 / C
I-75 south of Hopple Street	NB	4	7,054 / E	8,377 / E	8,317 / E			
	SB	4	7,006 / E	7,926 / E	7,820 / E			
I-71 at Ohio River	NB	4	6,301 / E	7,293 / E	7,290 / E			
	SB	4	7,158 / E	7,899 / E	7,833 / E			
I-471 at Ohio River	NB	3	4,036 / D	4,351 / D	4,335 / D	4,341 / D	4,386 / D	4,475 / D
	SB	3	7,969 / E	7,950 / E	7,911 / E			
I-275 west of I-471	EB	3	1,803 / B	2,952 / C	2,948 / C	2,939 / C	2,923 / C	2,903 / C
	WB	3	1,847 / B	2,578 / C	2,569 / C	2,582 / C	2,589 / C	2,627 / C
I-71/I-75 north of I-275	NB	3	5,931 / E	6,516 / E	6,451 / E			
	SB	4	5,953 / D	7,217 / E	7,210 / E			
I-71 south of I-275	NB	3	5,343 / E	6,365 / E	6,322 / E			
	SB	3	5,077 / E	6,374 / E	6,367 / E			
I-71 south of Cross County Hwy.	NB	3	5,338 / E	6,226 / E	6,189 / E			
	SB	3	4,770 / E	5,369 / E	5,290 / E			
I-71 south of Norwood Lateral	NB	4	5,931 / D	6,564 / E	6,501 / E			
	SB	4	5,290 / D	5,742 / D	5,764 / D	5,761 / D	5,774 / D	6,205 / D
I-75 south of I-275	NB	3	4,129 / D	4,512 / E	4,511 / E			
	SB	3	5,209 / E	6,281 / E	6,270 / E			
I-75 south of Norwood Lateral	NB	3	6,330 / E	6,735 / E	6,715 / E			
	SB	3	6,340 / E	6,540 / E	6,515 / E			
I-75 south of Cross County Hwy.	NB	3	6,936 / E	7,450 / E	7,422 / E			
	SB	3	6,681 / E	6,958 / E	6,938 / E			

\* Only 2 lanes in the eastbound direction.  
 \*\* Four basic freeway lanes in each direction.  
 = Congested Segment (LOS E & F)



**CINCINNATI / FORT  
WASHINGTON WAY**

Rev. January 28, 1997  
 Rev. January 10, 1997  
 December 18, 1996



Figure 1

**Year 2020 Peak Hour LOS  
at Key Freeway Locations**

## B. Intersection Capacity Analysis

Capacity analysis was conducted for eleven key access intersections in downtown Cincinnati. The eleven intersections are shown in Figure 2 and listed below.

- Central Avenue at 4th, 5th and 7th Streets
- Broadway at 3rd, 4th and 6th Streets
- 3rd Street at Clay Wade Bridge, Vine Street, Walnut Street and Main Street
- Taylor/Southgate (Central) Bridge at Pete Rose Way

The analysis was conducted for the existing conditions and for each of the five roadway alternatives. The analyses used the Planning Method procedures outlined in the *Highway Capacity Manual* and the critical volume thresholds of *Circular 212* to determine levels of service. The geometric and traffic control data for the existing and Alternatives 1, 1A, 2, and 3C scenarios was obtained from field observations conducted by Parsons Brinckerhoff Quade and Douglas, Inc. The geometrics for some of the intersections changed under Alternative 5. Sketches of the intersection geometrics are included in the Appendix.

The results of the AM and PM peak hour intersection capacity analyses are documented in Tables 3 and 4 and summarized below.

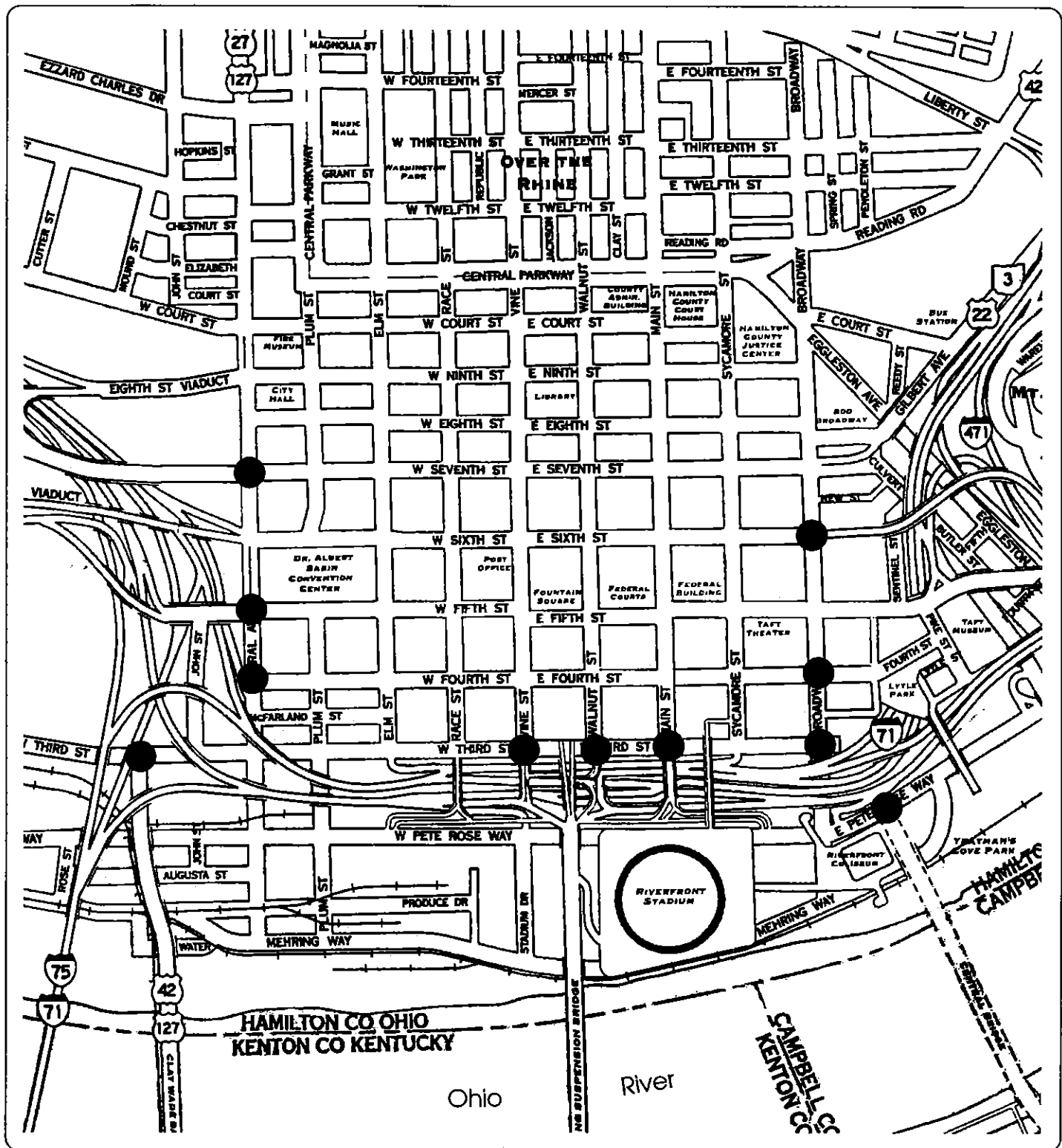
### Intersection Capacity Analysis Results:

#### AM Peak Hour (Table 3)

- Each of the eleven intersections currently operates at acceptable levels.
- Under Alternatives 1, 1A, 2 and 3C, each of the eleven intersections is expected to operate at acceptable levels.
- Under Alternative 5, nine of the eleven intersections are expected to operate at acceptable levels. However, the Central Avenue/5th Street and Main Street/3rd Street intersections are projected to operate over-capacity (LOS F).

Possible mitigation at the Central Avenue/5th Street location would include the addition of exclusive turn lanes on 5th Street at Central Avenue. Another possible scenario would be to allow the incoming traffic to the downtown area from eastbound US 50 and southbound I-75





**CINCINNATI / FORT WASHINGTON WAY**

Rev. January 29, 1987  
January 10, 1987



Figure 2  
**Key Intersection Locations**

**TABLE 3**  
**PROJECTED 2020 INTERSECTION LEVEL OF SERVICE, AM PEAK HOUR**  
*Fort Washington Way Subcorridor Analysis*

Intersection	Traffic Control	Existing	Level of Service				
			Alt. 1	Alt. 1A	Alt. 2	Alt. 3C	Alt. 5
Seventh @ Central	Signal	A	B	A	A	A	C
Fifth @ Central	Signal	C	B	C	C	C	C
Third @ Broadway	Signal	A	A	A	A	A	B
Third @ Main	Signal	A	A	A	A	A	C
Third @ Vine	Signal	A	A	A	A	B	A
Third @ Clay Wade Bridge	Signal	C	C	C	B	B	A
Central/Taylor Bridge @ Pete Rose Way	Signal	-	C	C	C	C	B
Sixth @ Broadway	Signal	B	C	C	C	C	D
Third @ Walnut	Signal	-	A	A	A	A	D
Fourth @ Broadway	Signal	-	A	A	A	A	A
Fourth @ Central	Signal	-	A	A	A	A	D

Source: BRW, Inc.  = Congested Intersection

to divert to alternate access locations, such as the proposed 2nd Street ramp to Vine Street, where ample reserve access capacity would be available.

Similar options exist for the Main Street/3rd Street intersection. Additional lanes could be provided, or excess traffic could be handled by alternate routes, such as Vine Street.

#### PM Peak Hour (Table 4)

- Each of the eleven intersection locations currently operates at acceptable levels during the PM peak hour, and each is projected to continue to operate acceptably under all five roadway alternatives.

### C. Weaving Analysis

Chapter 4 of the *Highway Capacity Manual* defines weaving as "the crossing of two or more traffic streams traveling in the same general direction along a length of highway without the aid of traffic control devices. Weaving areas are formed when a merge area is closely followed by a diverge area, or when an on-ramp is closely followed by an off-ramp and the two are joined by an auxiliary lane."

Problems associated with weaving cannot be determined or identified by basic freeway capacity analysis. Separate weaving analysis is needed, and was conducted for three of the Fort Washington Way roadway alternatives (1A, 3C and 5). The analysis was conducted by using the AM and PM peak hour forecasts obtained from KPMG and the weaving analysis procedures outlined in the *Highway Capacity Manual*.

Weaving analysis of the three alternatives was conducted for the following freeway segments:

- Alternative 1A
  - I-71 Southbound (Walnut Street to US 50)
  - I-71 Southbound (US 50 to Elm Street)
  - Eastbound US 50 (Broadway to I-471)
  - I-71 Northbound (US 50 to Vine Street)
  - I-71 Northbound (Race Street to US 50)
- Alternative 3C
  - I-71 Northbound (US 50 to Vine Street)

**TABLE 4**  
**PROJECTED 2020 INTERSECTION LEVEL OF SERVICE, PM PEAK HOUR**  
*Fort Washington Way Subcorridor Analysis*

Intersection	Traffic Control	Existing	Level of Service				
			Alt. 1	Alt. 1A	Alt. 2	Alt. 3C	Alt. 5
Seventh @ Central	Signal	A	A	A	A	A	A
Fifth @ Central	Signal	A	A	A	A	A	C
Third @ Broadway	Signal	A	A	A	A	A	A
Third @ Main	Signal	A	A	A	A	A	A
Third @ Vine	Signal	A	A	A	A	A	A
Third @ Clay Wade Bridge	Signal	A	A	A	A	A	A
Central/Taylor Bridge @ Pete Rose Way	Signal	-	B	B	B	B	B
Sixth @ Broadway	Signal	A	A	A	A	A	A
Third @ Walnut	Signal	-	A	A	A	A	D
Fourth @ Broadway	Signal	-	A	A	A	A	A
Fourth @ Central	Signal	-	A	A	A	A	D

Source: BRW, Inc.  = Congested Intersection

I-71 Northbound (Walnut to US 50)  
I-71 Southbound Mainline

- Alternative 5

Eastbound US 50 (Broadway to I-471)  
I-71 Northbound Mainline  
I-71 Southbound Mainline

The results of the weaving analysis are documented in Table 5 and summarized below.

**Weaving Analysis Results:**

- The four I-71 weaving areas analyzed under Alternative 1A comprised the eastbound and westbound Fort Washington Way segments. Each of these areas is expected to operate unacceptably (LOS E and LOS F) during the Year 2020 AM and PM peak hours. The US 50 segment (Broadway to I-471) is also expected to operate poorly (LOS E/F) during the Year 2020 AM and PM peak hours under Alternative 1A.
- The weaving areas analyzed under Alternative 3C indicate that both the eastbound and westbound Fort Washington Way segments would operate unacceptably (LOS E and LOS F) during the Year 2020 AM and PM peak hours. The US 50 segment would be expected to operate similar to Alternative 1A.
- The weaving analysis for Alternative 5 indicates that both the eastbound and westbound Fort Washington Way segments would operate well (LOS A/B) during the Year 2020 AM and PM peak hours. These results appear to be inconsistent with the basic freeway segment analysis summarized in Tables 1 and 2, which predicted LOS C/D for Alternative 5. The discrepancy is due to significant differences in the level of service criteria between the two techniques, as documented in the *Highway Capacity Manual*. Furthermore, the length of the proposed weaving segments (3,600 feet) greatly exceeds the calibration database for the weaving analysis equations. This suggests that the weaving analysis results for these segments may be unreliable. As a conservative assumption, the capacity analysis results in Tables 1 and 2 should be utilized for these particular segments. The third weaving segment under Alternative 5, eastbound US 50 between Broadway

**TABLE 5**  
**PROJECTED 2020 FREEWAY WEAVING LEVEL OF SERVICE**  
*Fort Washington Way Subcorridor Analysis*

Alternative	Section Description	AM Peak Hour		PM Peak Hour	
		Weaving	Non-Weaving	Weaving	Non-Weaving
1A	I-71 Southbound (Walnut to US 50)		D		D
1A	I-71 Southbound (US 50 to Elm)				
1A	US 50 Eastbound (Broadway to I-471)		D		
1A	I-71 Northbound (US 50 to Vine)		D		D
1A	I-71 Northbound (Race to US 50)				D
3C	I-71 Northbound (US 50 to Vine)				
3C	I-71 Northbound (Walnut to US 50)				
3C	I-71 SB Mainline (Common Section)				
5	I-71 SB Mainline (Common Section)	A	A	A	B
5	I-71 NB Mainline (Common Section)	B	B	B	B
5	US 50 Eastbound (Broadway to I-471)		D		

= Congested Segment (LOS E & F)

Source: BRW, Inc.

and I-471, would operate slightly better than under either Alternative A1 or 3C.

## V. CONCLUSIONS

- Existing Fort Washington Way includes left-side on and off ramps and a major weaving movement caused by US 50 joining I-71 on the left and departing on the right in both directions. These geometrics are not changed under the Alternative 1, 1A and 2 scenarios.
- Freeway segment capacity analysis indicates that the traffic impact differences between alternatives on adjacent outlying regional freeway segments is minor.
- Freeway segment capacity analysis indicates that the implementation of Alternative 5 would result in the least congestion within Fort Washington Way. Alternative 3C would result in the highest level of congestion within Fort Washington Way.
- Intersection capacity analysis of the key access locations into downtown Cincinnati indicates that the demand volume during the Year 2020 AM (inbound) peak hour is expected to be significantly higher than the PM (outbound) peak hour.
- Intersection capacity analysis of the Year 2020 AM peak hour indicates that the Central Avenue/5th Street intersection is expected to operate over-capacity under Alternative 5. However, ample reserve access capacity should be available for incoming eastbound US 50 and southbound I-75 vehicles via the proposed ramp to 2nd Street.
- Intersection capacity analysis of the Year 2020 AM peak hour indicates that the Main Street/3rd Street intersection is expected to operate over-capacity under Alternative 5. However, there would be numerous options for diverting excess traffic away from this intersection.
- Weaving analysis of the Fort Washington Way corridor indicates that Alternatives 1A and 3C would result in unacceptable operations along both directions of Fort Washington Way (I-71/US 50) during the Year 2020 AM and PM peak hours. The same levels of operation would occur under Alternatives 1 or 2.

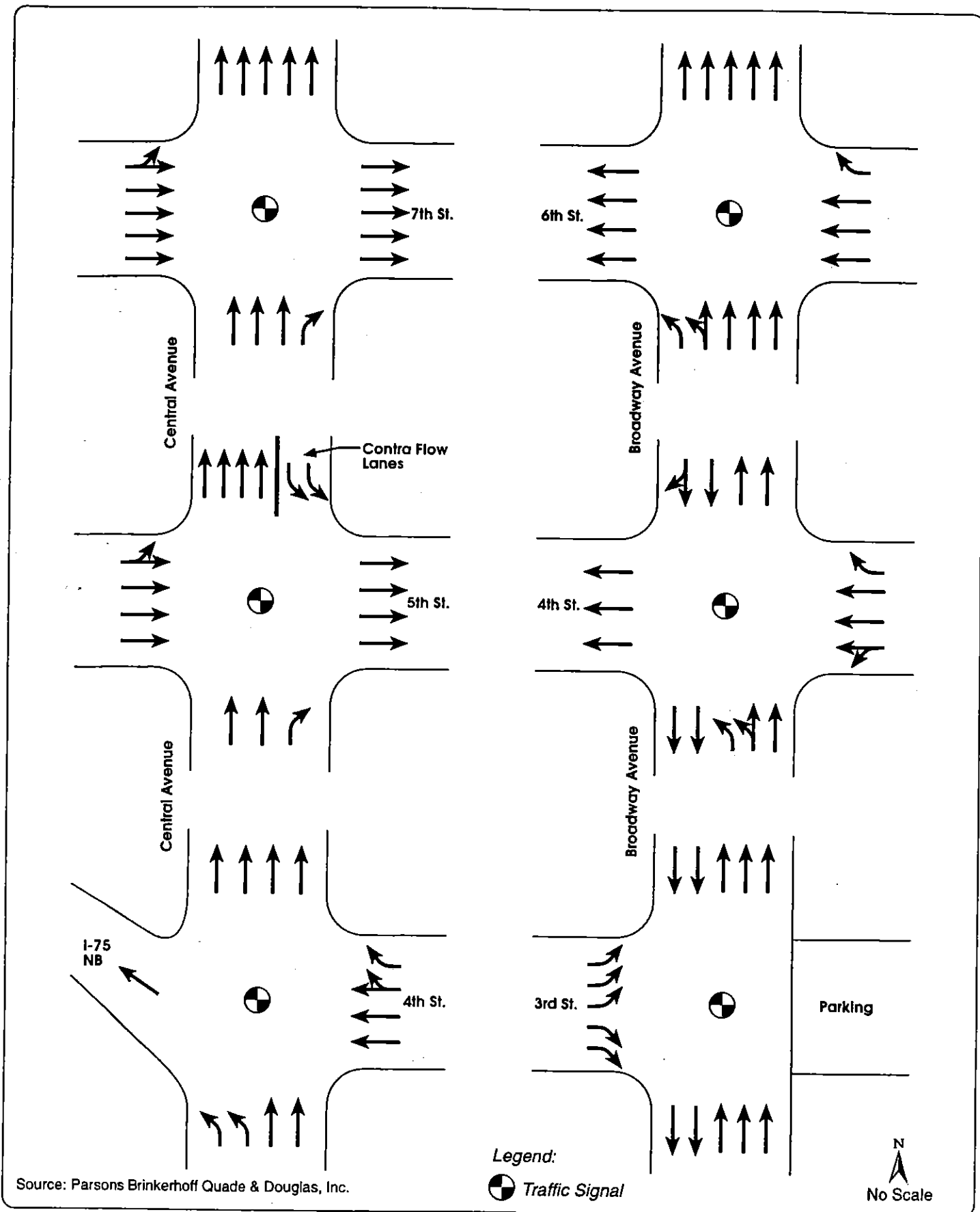
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- Weaving analysis of the Fort Washington Way corridor indicates that under Alternative 5 both the eastbound and westbound segments would be expected to operate at acceptable levels during the Year 2020 AM and PM peak hours.

HP/ch  
Enclosures  
cc: Stephanie Eiler, BRW  
#24205



# APPENDIX



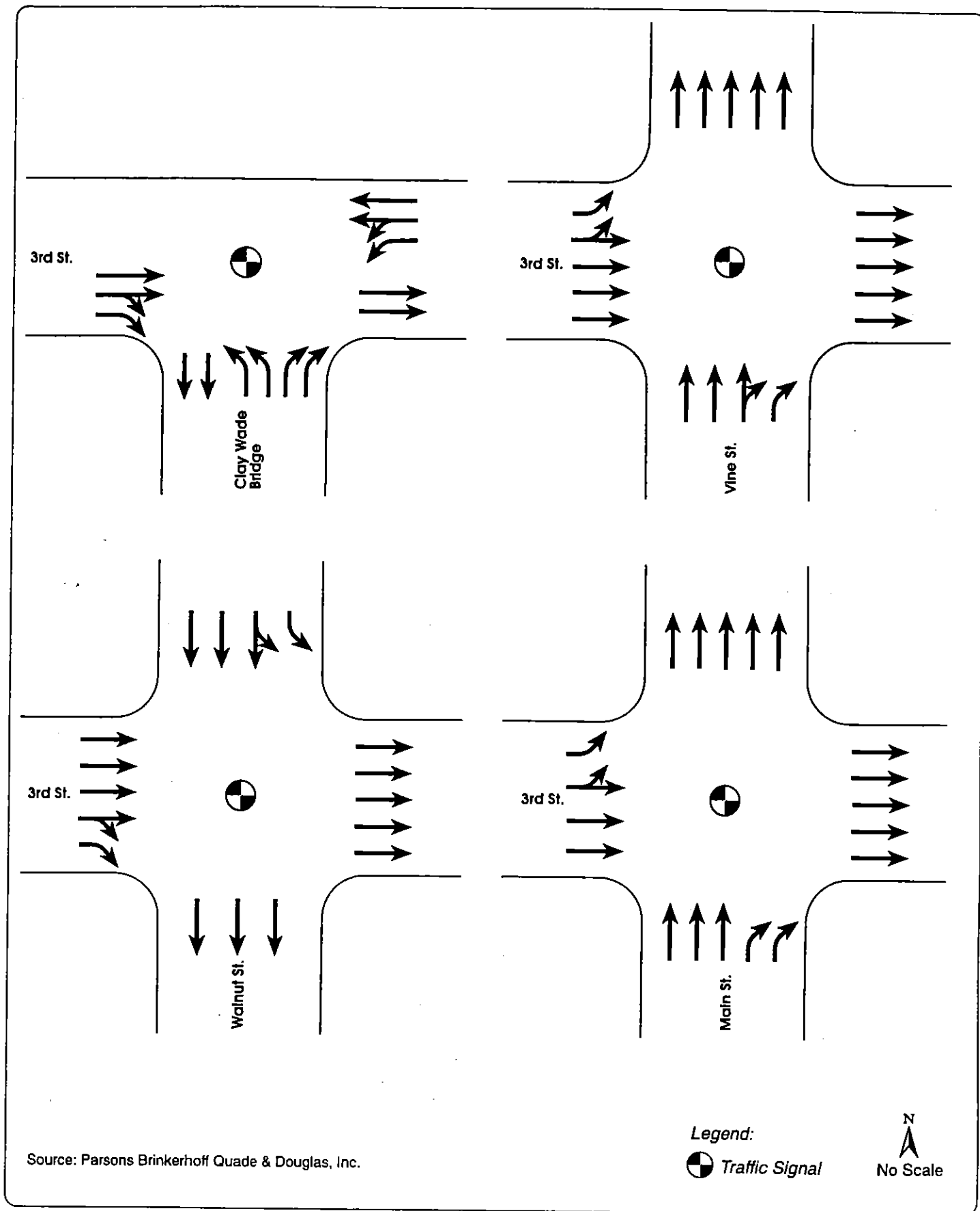
Source: Parsons Brinkerhoff Quade & Douglas, Inc.

# CINCINNATI / FORT WASHINGTON WAY

January 10, 1997



# Intersection Geometrics Alternatives 1, 1A, 2 & 3C

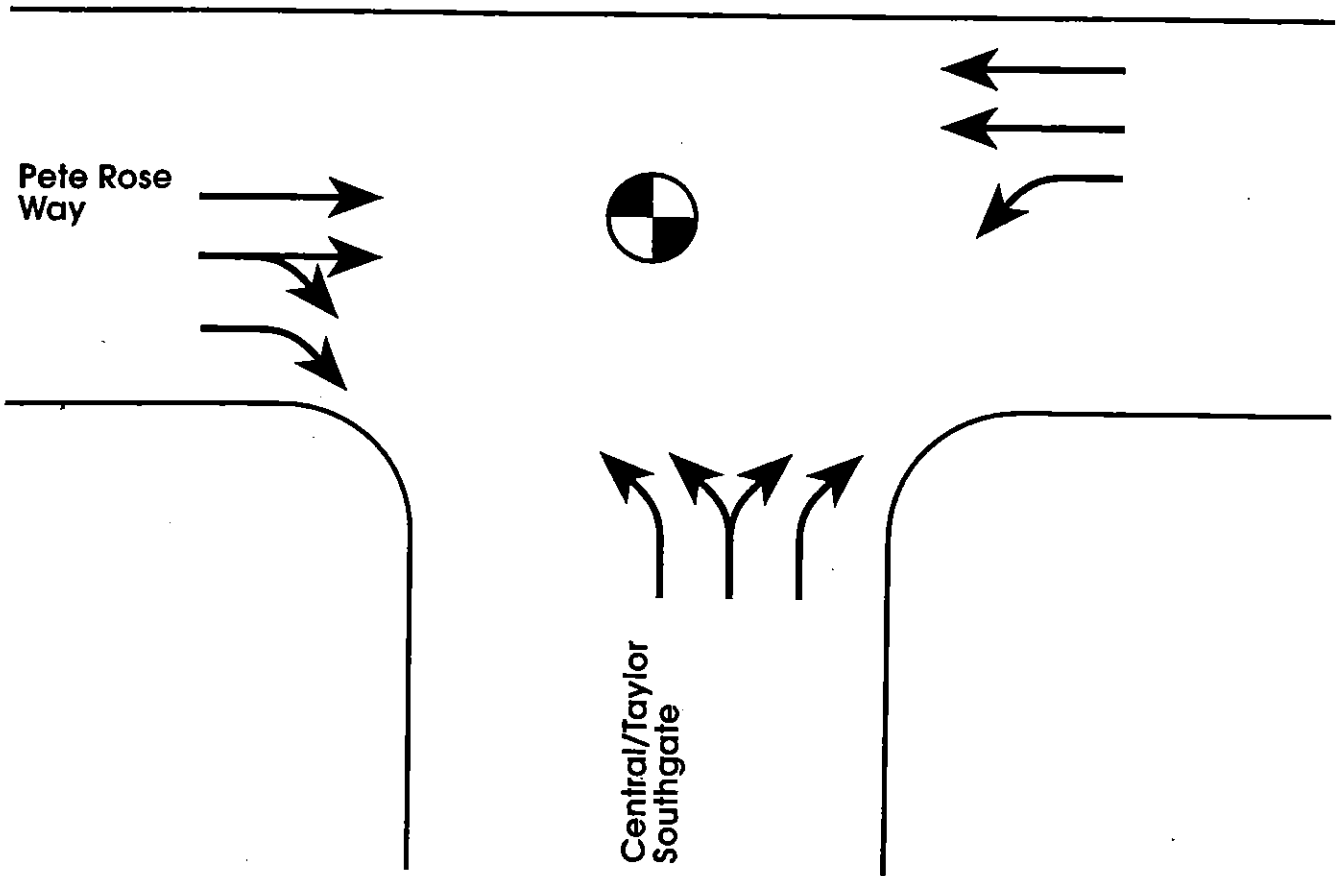


CINCINNATI / FORT WASHINGTON WAY

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Intersection Geometrics  
 Alternatives 1, 1A, 2 & 3C



Pete Rose Way

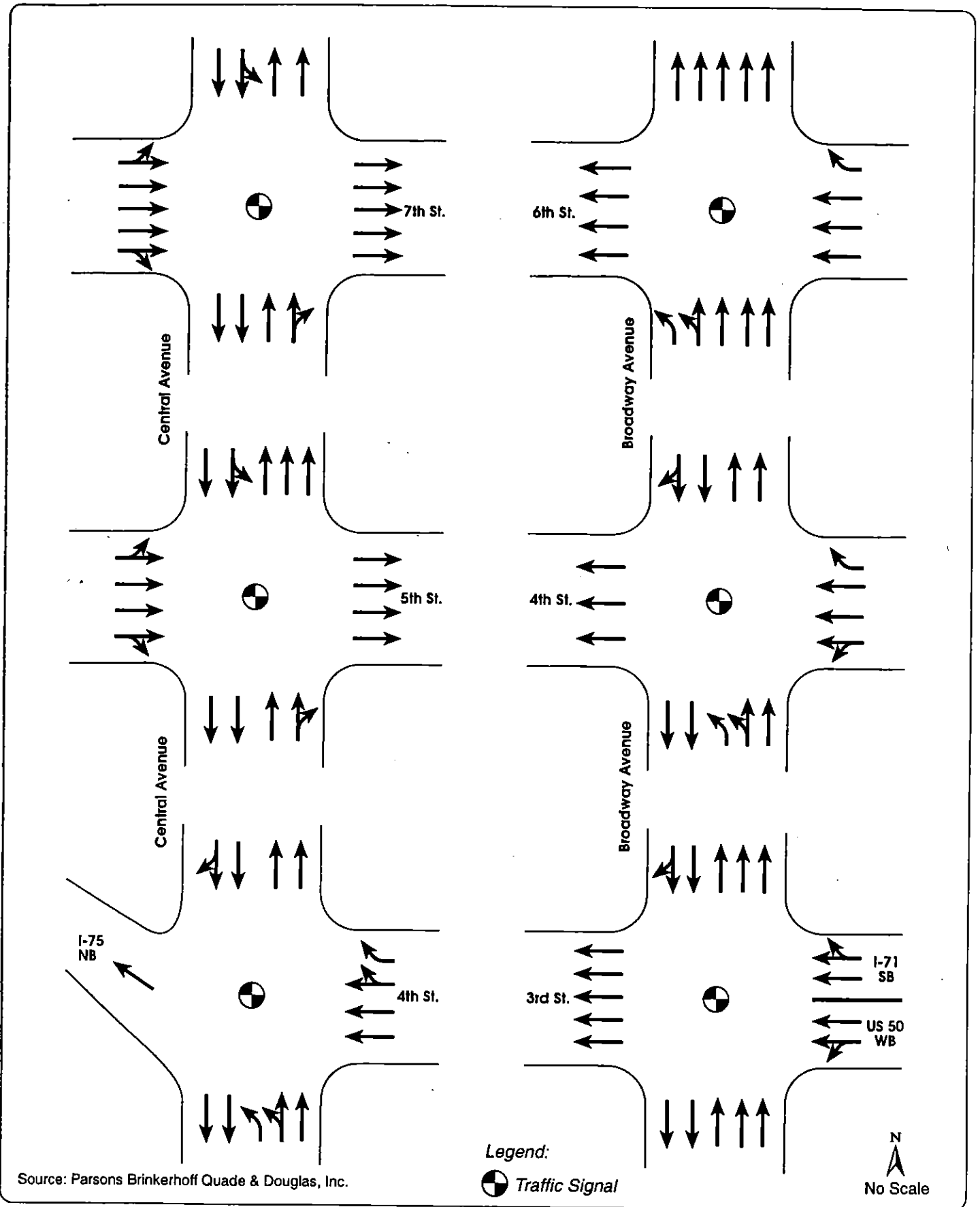


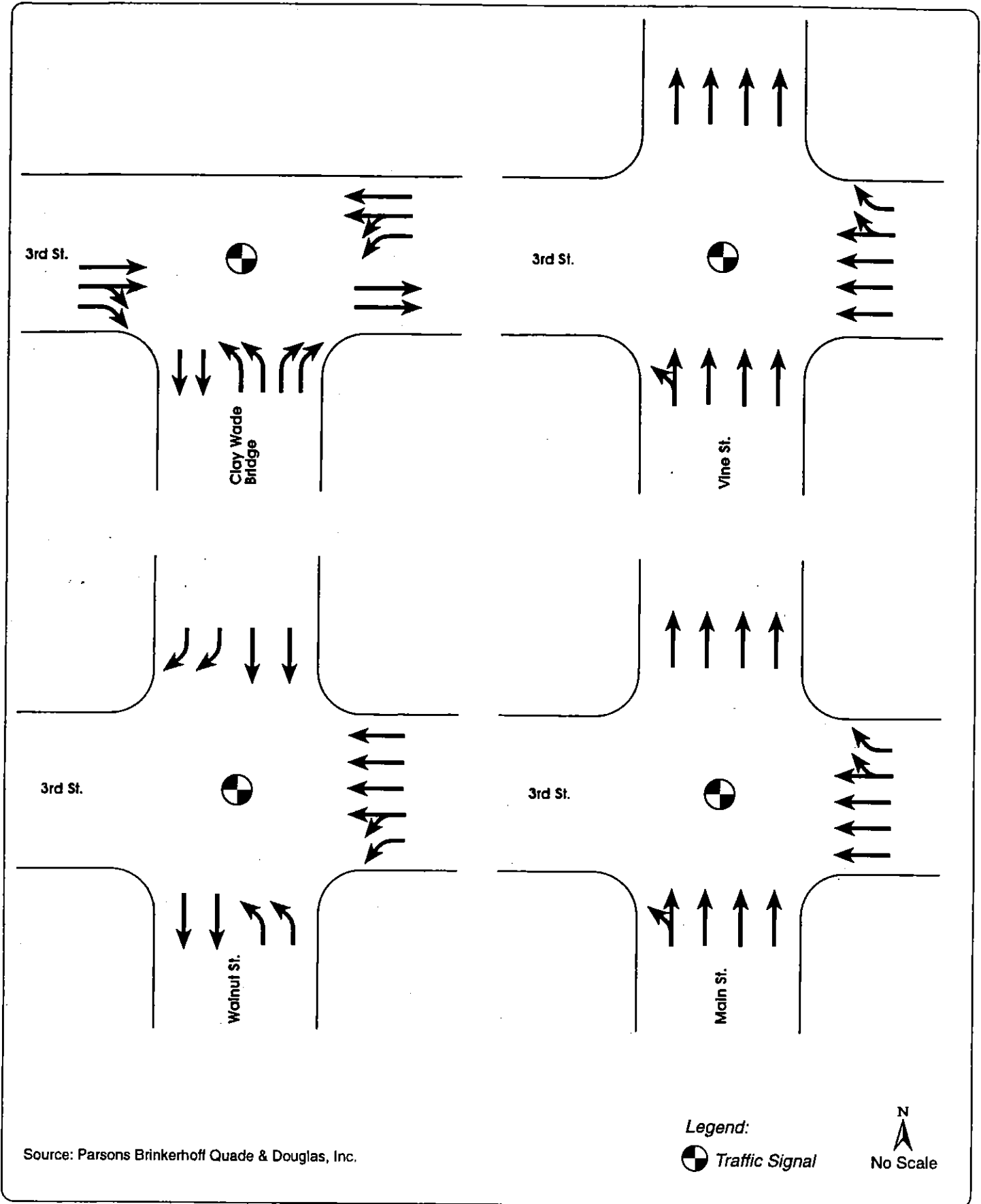
Central/Taylor Southgate

Legend:



Source: Parsons Brinkerhoff Quade & Douglas, Inc.



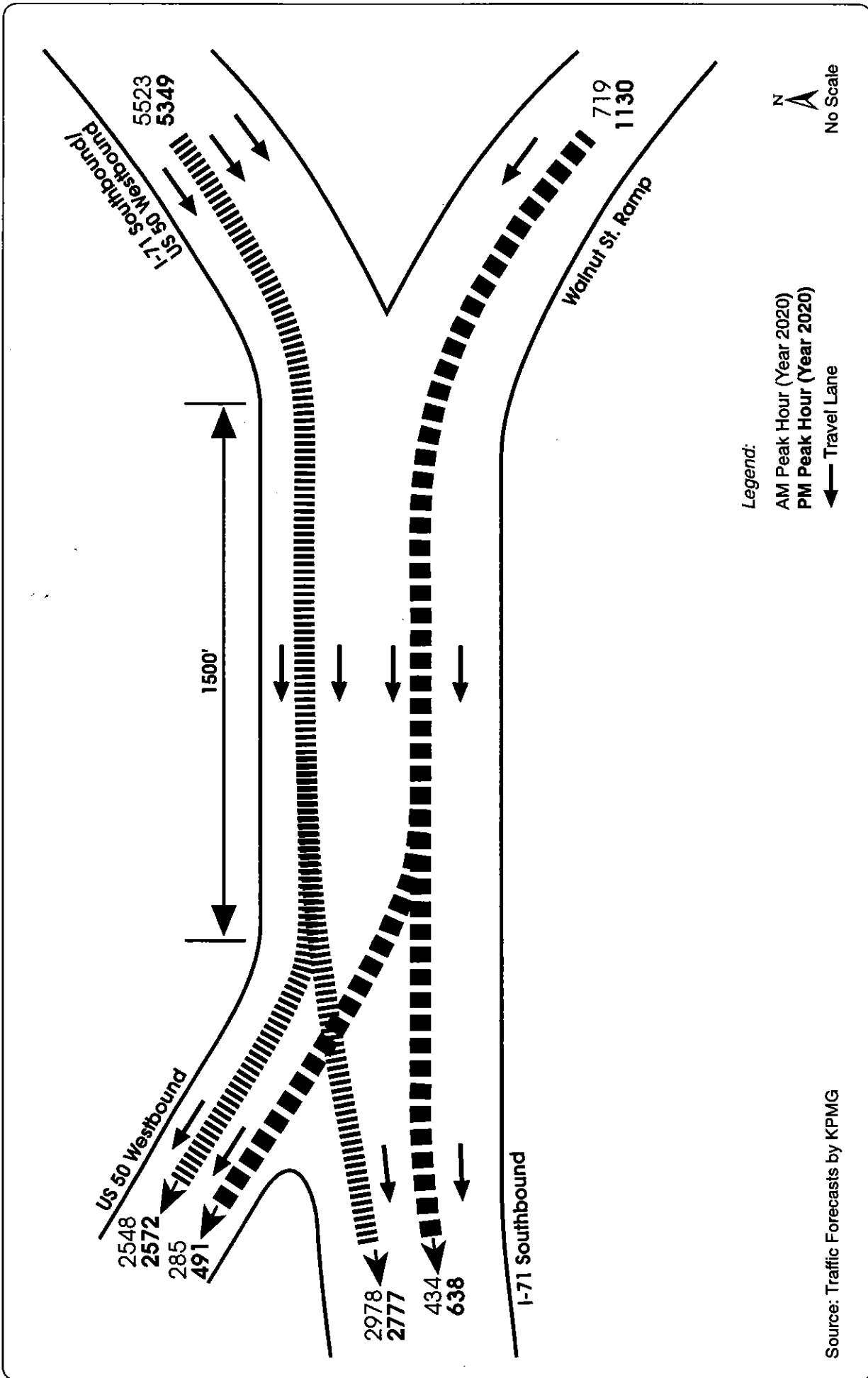


**CINCINNATI / FORT  
WASHINGTON WAY**

January 10, 1997



**Intersection Geometrics  
Alternative 5**

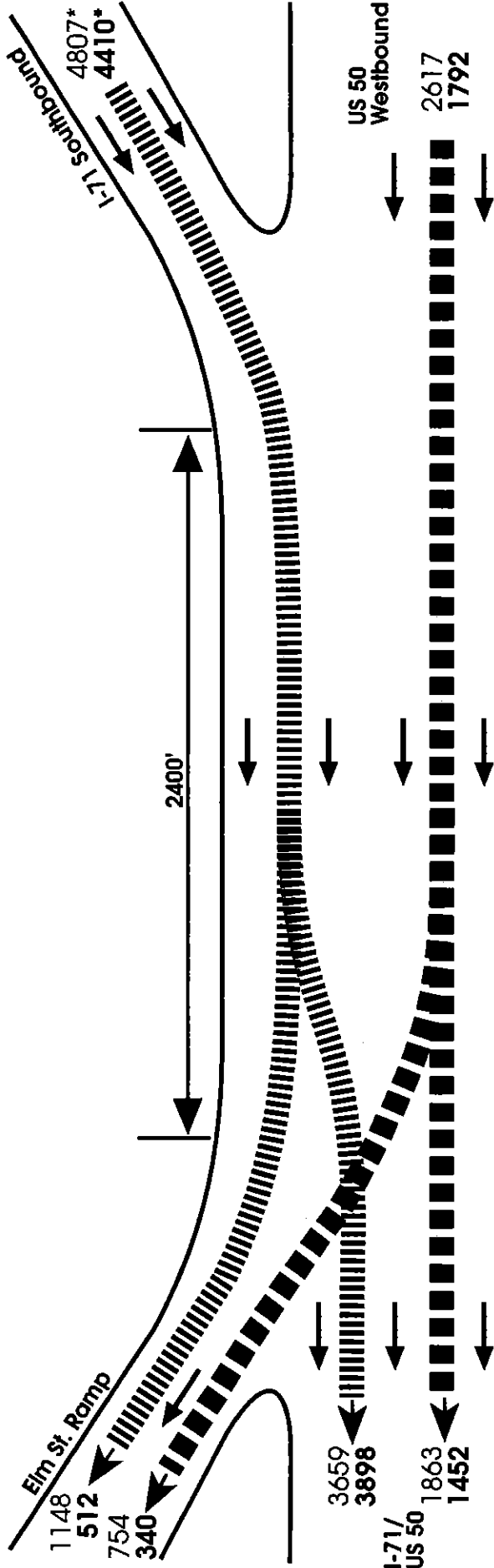


**Weaving Analysis**  
**(I-71 Southbound: Walnut St. to US 50)**  
**Alternative 1A**

Rev. January 28, 1997  
January 10, 1997



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**WASHINGTON WAY**



\* Includes Traffic from Sycamore St.

Legend:  
 AM Peak Hour (Year 2020)  
 PM Peak Hour (Year 2020)  
 ← Travel Lane

N  
 No Scale

Source: Traffic Forecasts by KPMG

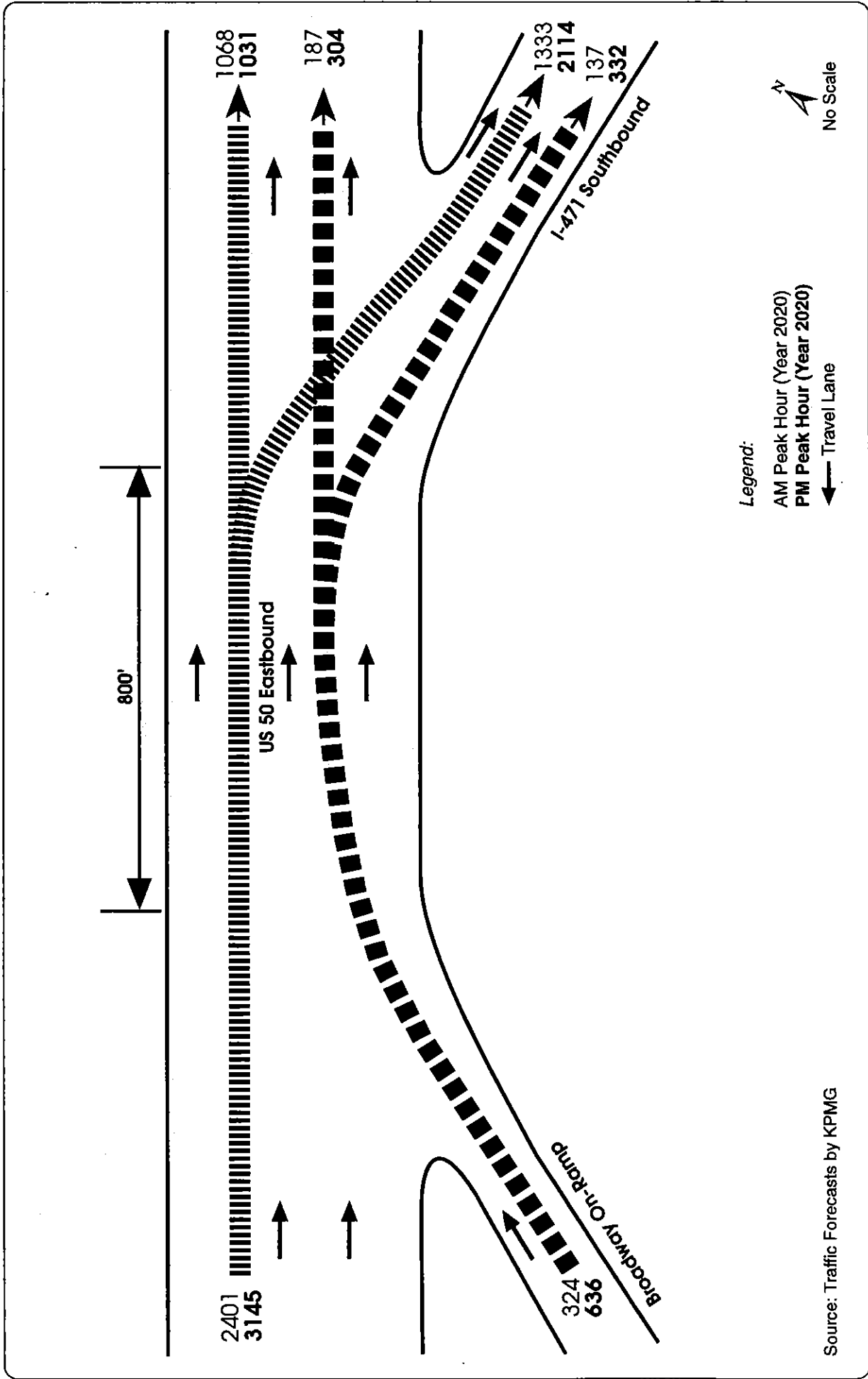
**Weaving Analysis**  
**(I-71 Southbound: US 50 to Elm St.)**  
**Alternative 1A**

Rev. January 28, 1987  
 January 10, 1987



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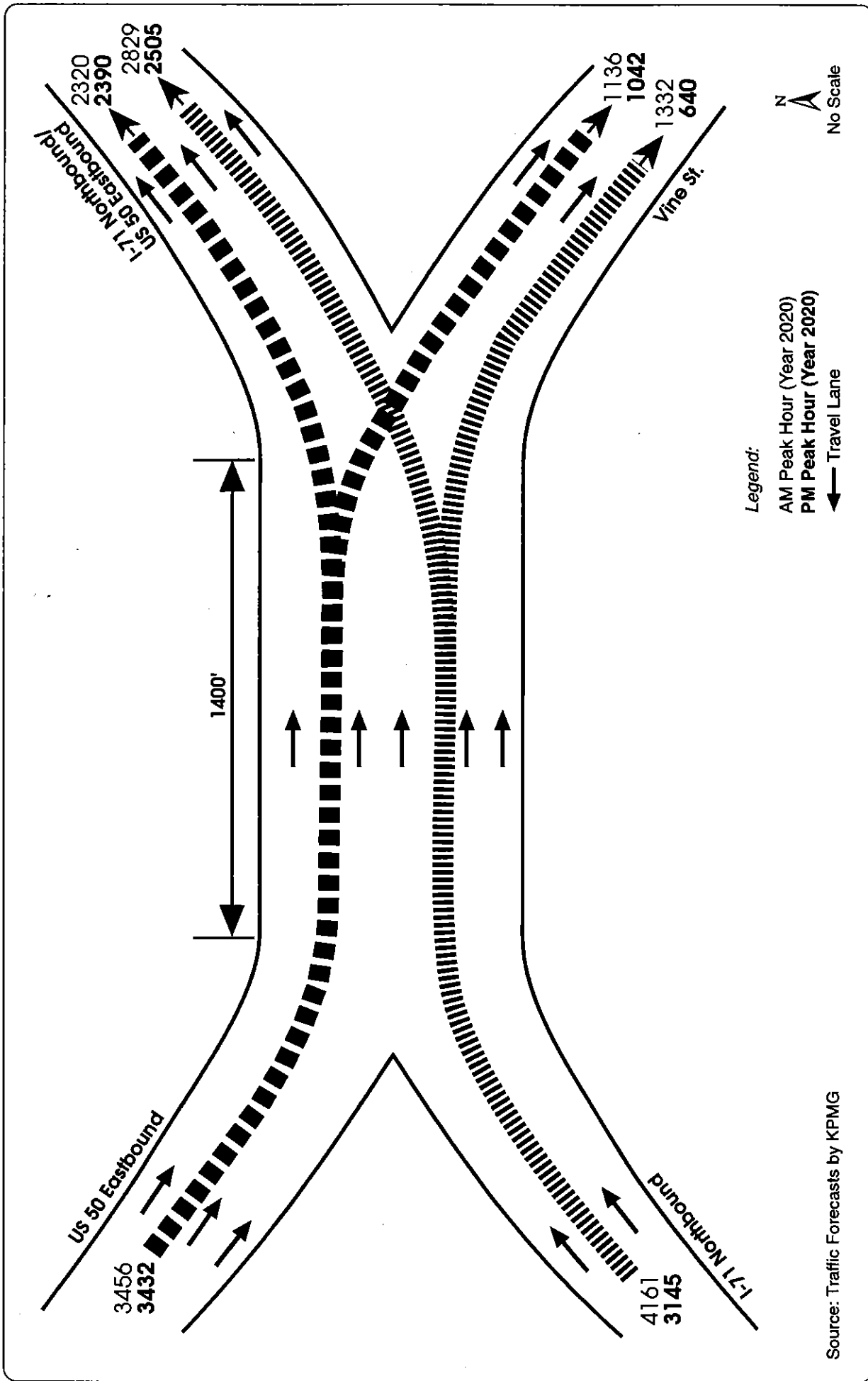
**Weaving Analysis**  
 (US 50 between Broadway & I-471)  
 Alternative 1A

Rev. January 25, 1997  
 January 10, 1997



**CINCINNATI / FORT WASHINGTON WAY**

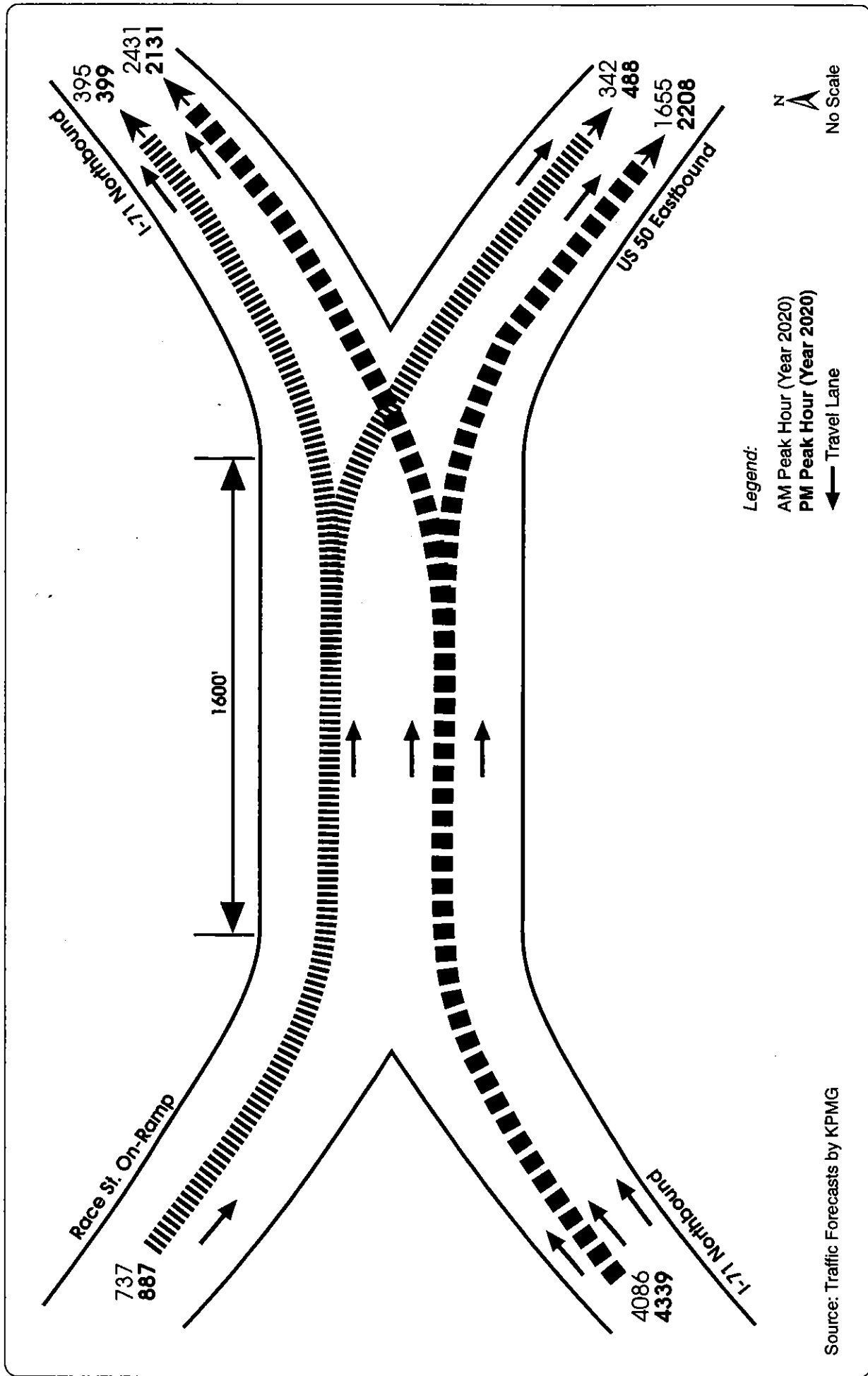
Source: Traffic Forecasts by KPMG



**Weaving Analysis**  
**(I-71 Northbound: US 50 to Vine St.)**  
**Alternative 1A**

Rev. January 26, 1997  
 January 10, 1997

**CINCINNATI / FORT**  
**WASHINGTON WAY**

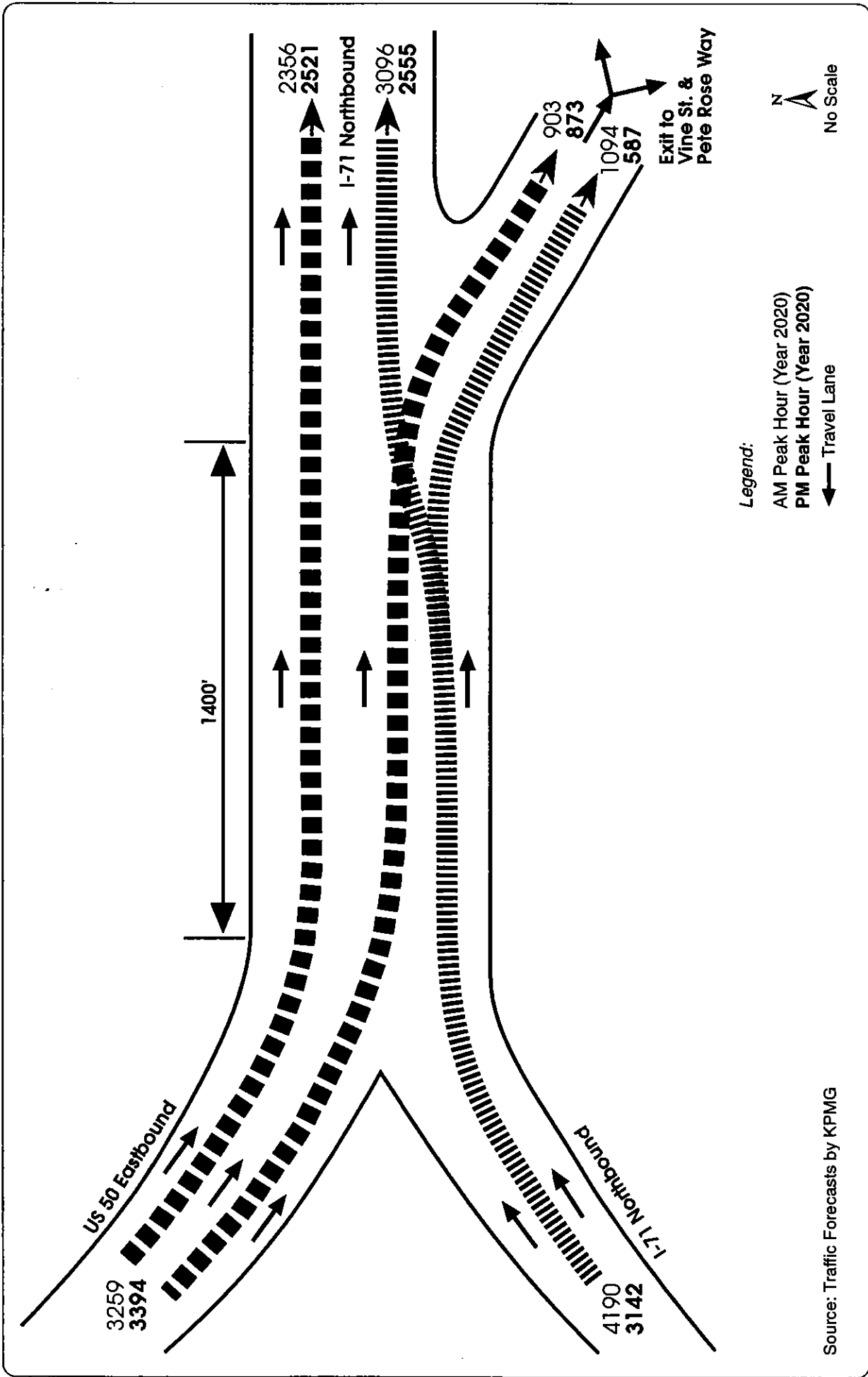


**Weaving Analysis**  
**(I-71 Eastbound: Race St. to US 50)**  
**Alternative 1A**

Rev. January 28, 1987  
 January 10, 1987



**CINCINNATI / FORT**  
**WASHINGTON WAY**

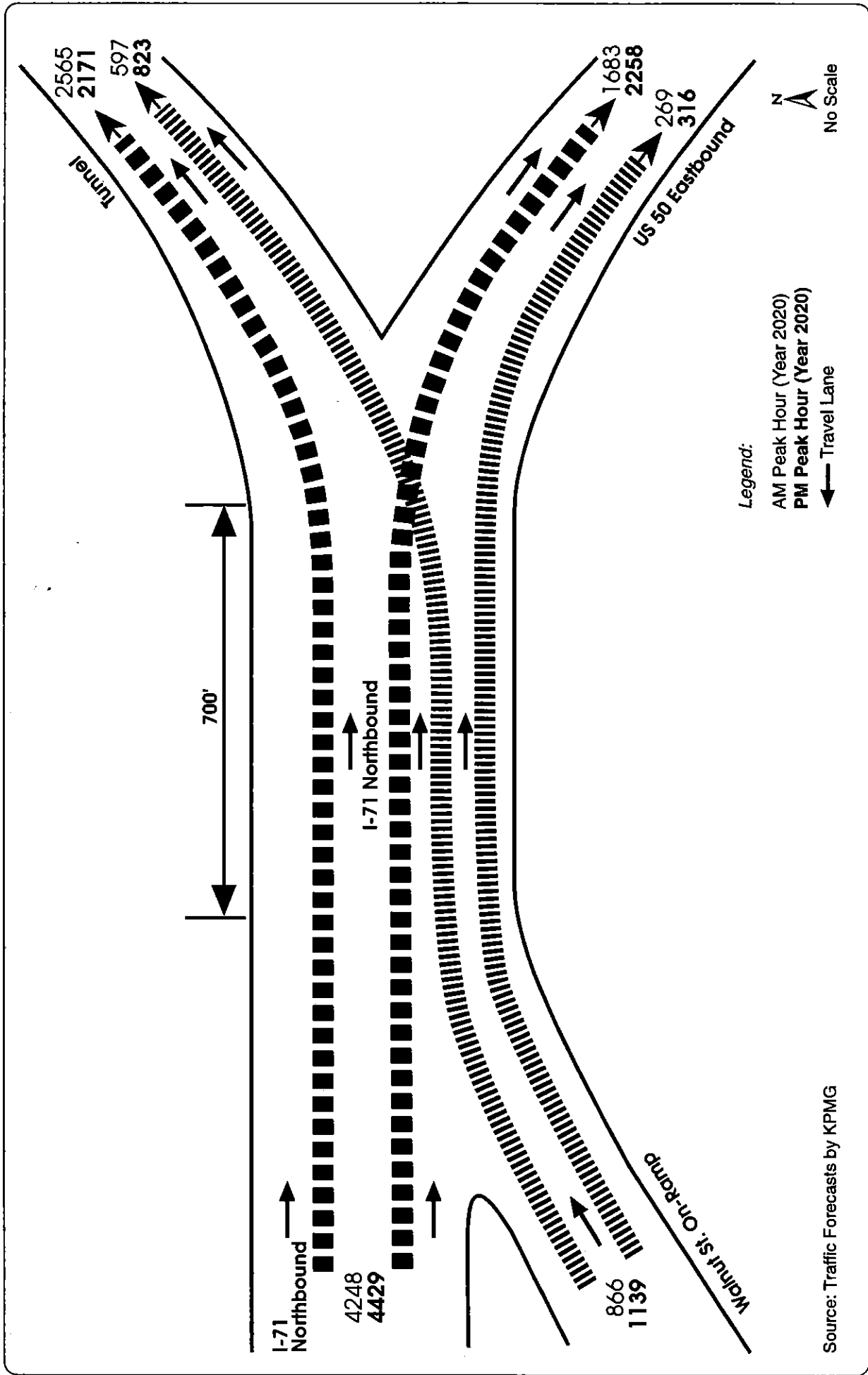


**Weaving Analysis**  
**(I-71 Northbound between US 50 & Vine St.)**  
**Alternative 3C**

Rev. January 29, 1997  
January 10, 1997



**CINCINNATI / FORT WASHINGTON WAY**

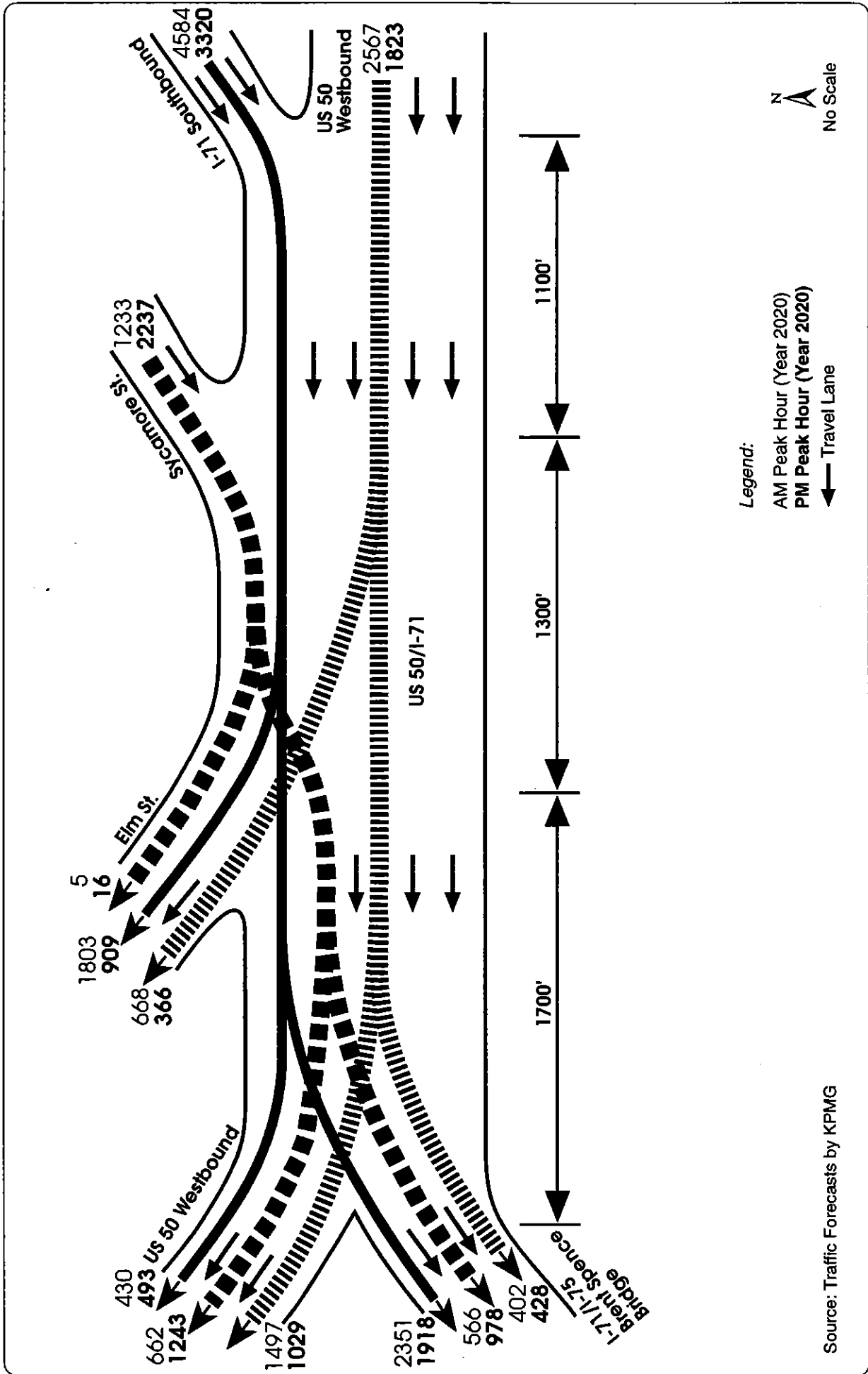


**Weaving Analysis**  
**(I-71 Northbound between Walnut and US 50)**  
**Alternative 3C**

Rev. January 25, 1997  
 January 10, 1997



**CINCINNATI / FORT WASHINGTON WAY**

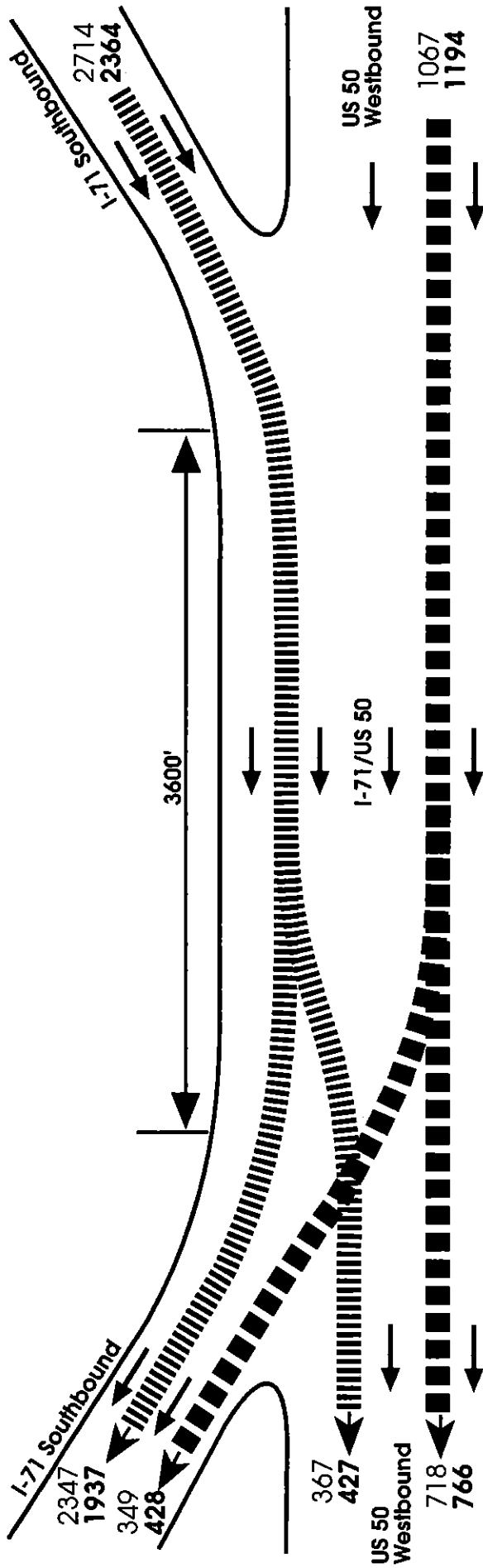


**Weaving Analysis**  
**(US 50/I-71 Mainline Westbound)**  
**Alternative 3C**

Rev. January 23, 1997  
 January 10, 1997



**CINCINNATI / FORT**  
**WASHINGTON WAY**



Legend:

AM Peak Hour (Year 2020)

PM Peak Hour (Year 2020)

← Travel Lane



No Scale

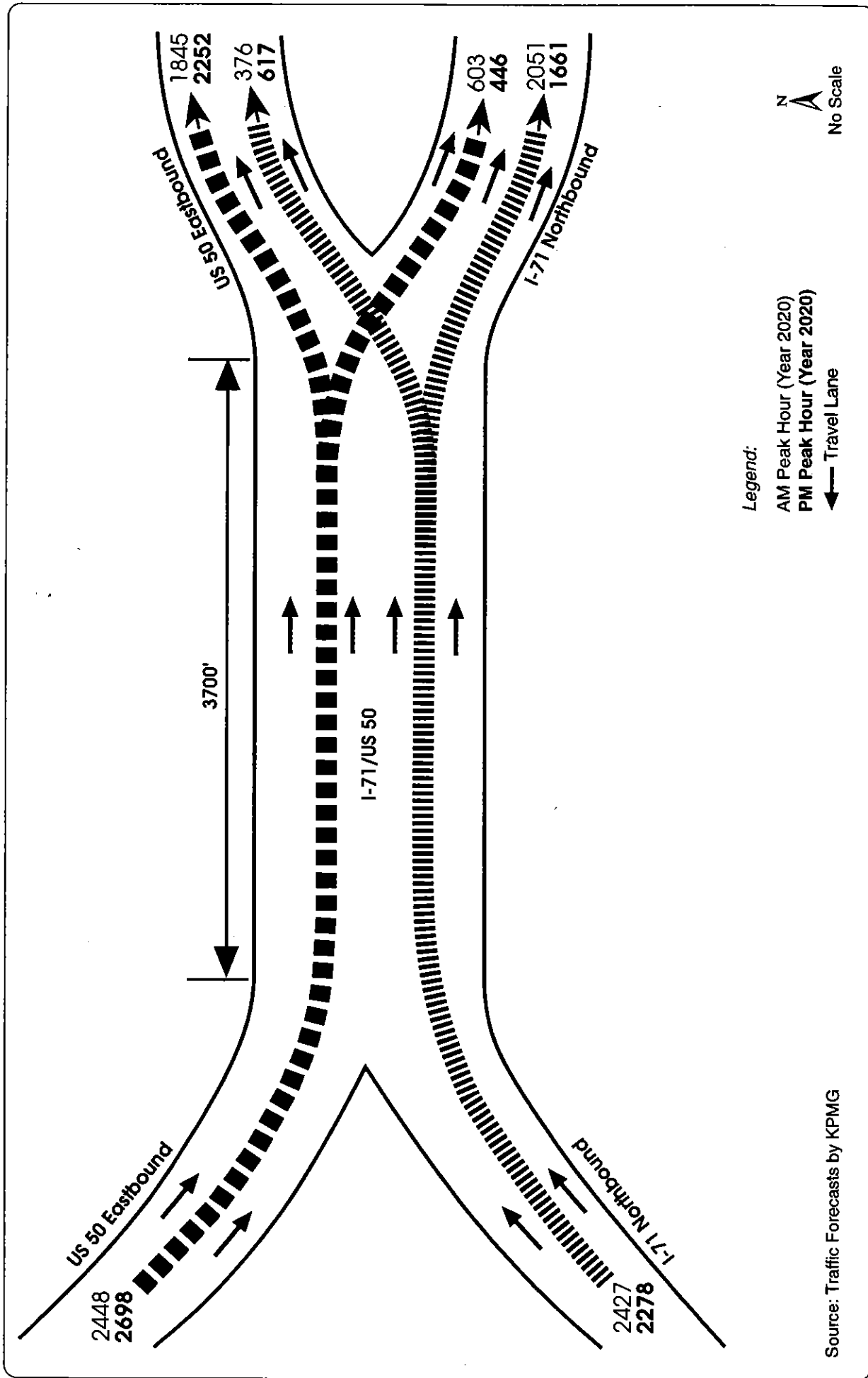
Source: Traffic Forecasts by KPMG

**Weaving Analysis**  
**(US 50/I-71 Mainline Westbound)**  
**Alternative 5**

Rev. January 25, 1997  
 January 10, 1997



**CINCINNATI / FORT**  
**WASHINGTON WAY**



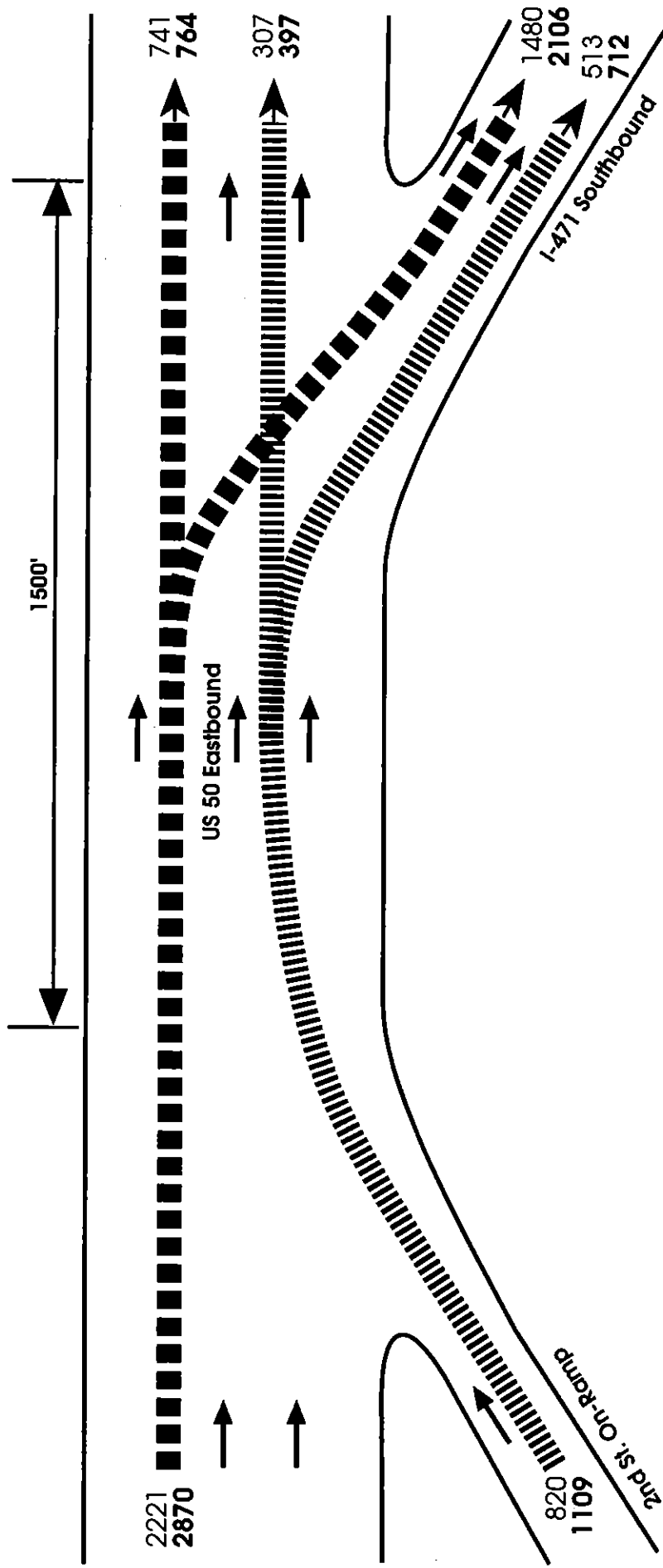
**Weaving Analysis**  
**(US 50/I-71 Mainline Eastbound)**  
**Alternative 5**

Rev. January 29, 1997  
January 10, 1997



**CINCINNATI / FORT WASHINGTON WAY**





Legend:  
 AM Peak Hour (Year 2020)  
 PM Peak Hour (Year 2020)  
 ← Travel Lane

No Scale

Source: Traffic Forecasts by KPMG

**Weaving Analysis**  
**(US 50 between Broadway & I-471)**  
**Alternative 5**

Rev. January 29, 1997  
 January 10, 1997



**CINCINNATI / FORT**  
**WASHINGTON WAY**