

Interchange Development LLC

152 Morrill Road
Canterbury, NH 03224
(603) 783-0400

April 20, 2022

Beth Fenstermacher, PLA, LEED AP
Assistant City Planner, City of Concord
Planning & Community Development Dept.
41 Green St, 3rd Floor
Concord NH 03301

Re: Merchants Way Comprehensive Development Plan

Dear Ms. Fenstermacher:

At this time, construction is continuing on the private roadways within Merchants Way including Interchange Drive which was approved in December 2020 as part of Phase I, Project 2020-40. Interchange Drive is expected to provide secondary access to all the uses in Merchants Way including Market Basket, HomeGoods, and the NH Liquor & Wine Outlet. Interchange Drive also provides primary access to future uses such as an urgent care. The Phase I plans for Interchange Drive did not include the construction of the driveways shown in future phases. After consultation with our site contractor, we would prefer to include the curb cuts along Interchange Drive during the current construction as it would be more cost effective than having to rebuild the curbs for each driveway and repair Interchange Drive in the future.

Before constructing the curb cuts, we assume that we would need to provide an update to the Phase I Site Plan, an "SK", for engineering review and approval. This SK would show the details of each curb cut to be constructed along Interchange Drive. On March 16, 2022, the Planning Board gave conditional Major Site Plan approval for a multi-tenant building at 4-8 Merchants Way. Concurrent with that Site Plan approval, the Board also granted approval of an amendment to the Comprehensive Development Plan for the overall Merchants Way development (see Attachment A). During the February 2022 Planning Board meeting we presented an alternative CDP which was discussed briefly and ultimately, not submittal for approval. At this time, we would appreciate consideration of that alternative plan as shown in Attachment B. If approved, we would submit an SK to construct the driveways as shown on Attachment B.

We would appreciate the opportunity to review and discuss this CDP with Planning staff prior to the May Planning Board meeting. We also appreciate your consideration of this request.

Sincerely,



David S. Rauseo



Laurie M. Rauseo





Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

MEMORANDUM

Date: May 03, 2022
To: Beth Fenstermacher, PLA, LEEP AP
City of Concord Assistant City Planner
From: Bob Duval, PE
Project: Interchange Development,
Whitney Road, Concord, NH
Subject: CDP Update – Trip Generation

Project Update.

The Interchange Development project at Merchants Way is currently under construction with the supermarket and several retail buildings close to opening in the upcoming months. The Comprehensive Development plan is being updated for the remainder of the site. The proposed uses of the “Full Build” of the project has shifted based market demand and tenant interest at the site. The table below outlines the changes in the uses at the site per the updated attached plan.

Table 1 Full Build Interchange Development Update

		Approved	Proposed Update
LUC 850	Supermarket	79,895 sf	80,775 sf
LUC 820	Shopping Center (Retail, Restaurant, Bank)	71,429 sf	88,822 sf
LUC 720	Medical-Dental Office	13,992 sf	9,620 sf
LUC 110	General Light Industrial	45,000 sf	45,000 sf

Trip Generation.

The change to the trip generation for the overall development is between 3% - 6% during the peak hours. The internal capture for the AM peak hour adjusted from 9% approved to 8% with the update. The PM and SAT capture rates remained the same at 12%. See attached updated calculations.

Table 2 Full Build Trip Generation¹ Update – with Internal Capture

	Approved	Proposed Update	Change
AM Peak Hour	403	415	+12 (3%)
PM Peak Hour	1088	1148	+60 (5%)
SAT Peak Hour	1196	1273	+77 (6%)

¹ Based on ITE Trip Generation Manual 10th Edition.

After distribution of site trips through the network, the update will add 29 trips or less to any movement, which is about one new car every two minutes. See attached updated site trip diagrams for the peak hours.

At this level, we would expect all study intersections to function without issue as outlined in the approved traffic study with the updated comprehensive development plan.

Respectfully submitted,
TFMoran, Inc.

Robert Duval, PE



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

ATTACHMENTS

- Updated CDP Layout Plan
- Trip Generation
 - o Updated & Approved
- Site Trip Distribution Diagrams
 - o Updated & Approved

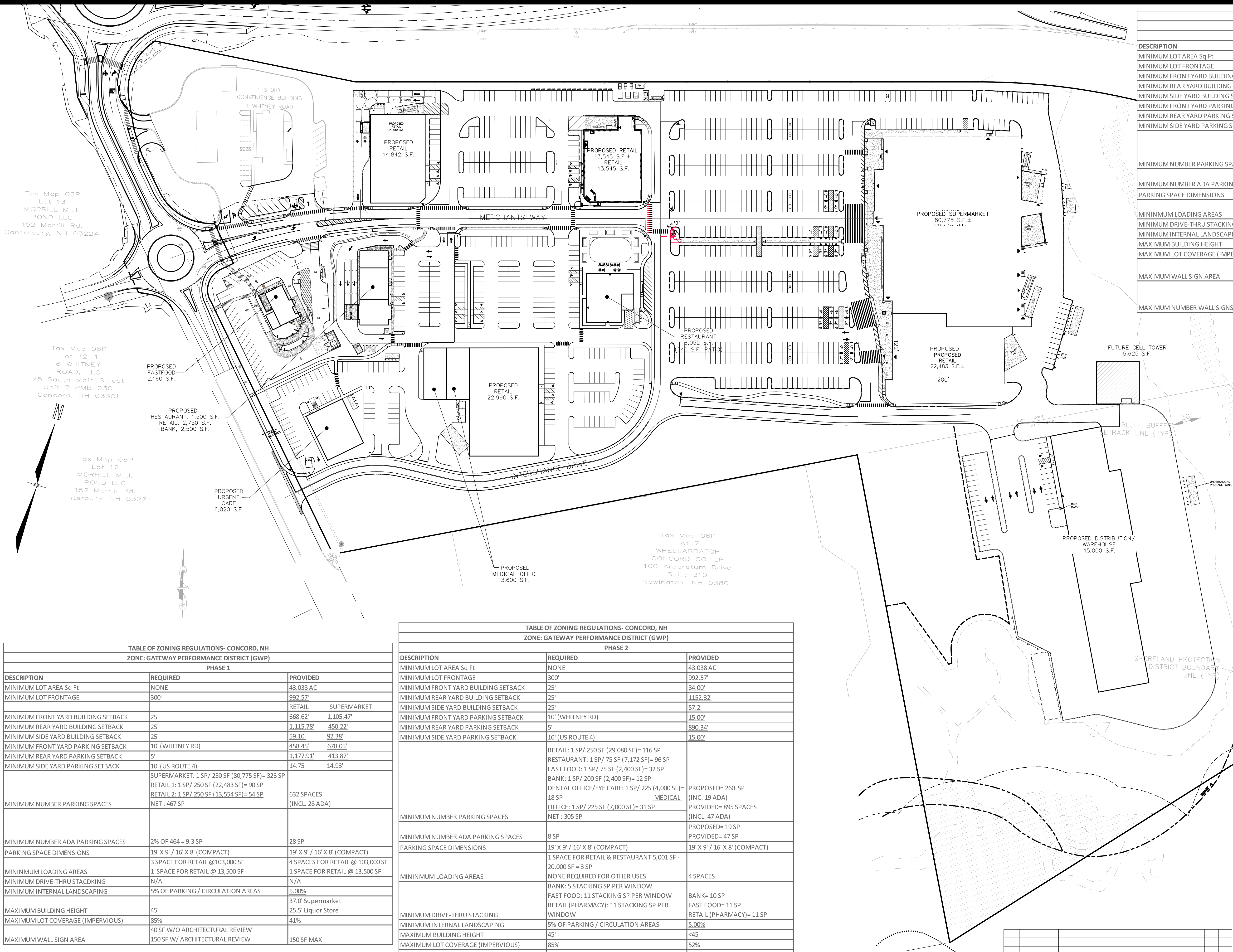


TABLE OF ZONING REGULATIONS- CONCORD, NH		
ZONE: GATEWAY PERFORMANCE DISTRICT (GWP)		
PHASE 3		
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM LOT AREA Sq Ft	NONE	43,038 AC
MINIMUM LOT FRONTAGE	300'	992.57'
MINIMUM FRONT YARD BUILDING SETBACK	25'	337.69'
MINIMUM REAR YARD BUILDING SETBACK	25'	375.80'
MINIMUM SIDE YARD BUILDING SETBACK	25'	199.81'
MINIMUM FRONT YARD PARKING SETBACK	10'	178.91'
MINIMUM REAR YARD PARKING SETBACK	5'	504.34'
MINIMUM SIDE YARD PARKING SETBACK	10'	551.47'
MINIMUM NUMBER PARKING SPACES	WAREHOUSE-DISTRIBUTION: 1 SP/ 1,500 SF (45,000 SF)= 30 SP	PROPOSED= 32 SP (INC. 2 ADA) PROVIDED= 927 SPACES (INCL. 49 ADA)
MINIMUM NUMBER ADA PARKING SPACES	2 SP	PROPOSED= 2 SP PROVIDED= 49 SP
PARKING SPACE DIMENSIONS	19' X 9' / 16' X 8' (COMPACT)	19' X 9' / 16' X 8' (COMPACT)
MINIMUM LOADING AREAS	2 SPACES FOR WAREHOUSING 20,001 - 60,000 SF	2 SPACES
MINIMUM DRIVE-THRU STACKING	N/A	N/A
MINIMUM INTERNAL LANDSCAPING	5% OF PARKING / CIRCULATION AREAS	5.00%
MAXIMUM BUILDING HEIGHT	45'	<45'
MAXIMUM LOT COVERAGE (IMPERVIOUS)	85%	61%
MAXIMUM WALL SIGN AREA	40 SF W/O ARCHITECTURAL REVIEW 150 SF W/ ARCHITECTURAL REVIEW	150 SF MAX
MAXIMUM NUMBER WALL SIGNS	3 WALL SIGNS PER WALL FRONTAGE ON STREET NOT TO EXCEED ALLOWED AREA	6 WALL SIGNS PER BUILDING MAX.

REFERENCE PLANS

RE-SUBDIVISION PLAT LANDS OF SUSAN A. WHITNEY AND INTERCHANGE DEVELOPMENT LLC. LOCATION, WHITNEY ROAD - CONCORD, NH - MERRIMACK COUNTY, TAX MAPS 06P LOTS 5 & 6. PREPARED BY FWS LAND SURVEYING P.L.L.C., DATED FEB. 10, 2014 LAST REVISED MAY 01, 2014.

NOTES

- THE PURPOSE OF THIS PLAN IS TO SHOW A MIXED USE DEVELOPMENT WHICH INCLUDES A LOT LINE ADJUSTMENT, COMMON ACCESS/PARKING AREAS AND COMMON UTILITIES.
- CURRENT ZONING IS GATEWAY PERFORMANCE DISTRICT (GWP) & INDUSTRIAL (IN) ZONING DISTRICT.

	REQUIRED GWP/IN	PROPOSED GWP/IN
MIN. LOT SIZE:	--/40,000 SF	*/*
MIN. BUILDABLE LAND:	--/20,000 SF	*/*
MIN. LOT FRONTAGE:	300'/200'	*/*
MIN. BUILDING SETBACKS:		
FRONT	25'/50'	>25'/NA
SIDE	25'/25'	>25'/>25'
REAR	25'/30'	>25'/>35'
MAX. LOT COVERAGE:	85%/85%	<85%/<85%
* SEE LOT LINE ADJUSTMENT PLAN BY FWS LAND SURVEY.		

- PARKING CALCULATIONS:
REQUIRED:
SUPERMARKET: 1 SP/250 SF (80,775 SF) = 323 SP.
*SUPERMARKET (CLIENT REQUIREMENT): 5 SP/1,000 SF (80,775 SF) = 404 SP.
ATTACHED RETAIL (ATTACHED TO SUPERMARKET): 1 SP/250 SF (22,483 SF) = 90 SP.
*ATTACHED RETAIL (ATTACHED TO SUPERMARKET, CLIENT REQUIREMENT): 5 SP/1,000 SF = 112 SP.
RETAIL: 1 SP/250 SF (41,720 SF) = 169 SP.
RESTAURANT: 1 SP/75 SF (6,052 SF + 1,120 SF PATIO) = 96 SP.
FASTFOOD: 1 SP/75 SF (2,400 SF) = 32 SP.
BANK: 1 SP/200 SF (2,400 SF) = 12 SP.
DENTAL OFFICE/EYE CARE CENTER: 1 SP/225 SF (4,000 SF) = 18 SP.
MEDICAL OFFICE: 1 SP/225 SF (7,000 SF) = 31 SP.
WAREHOUSE-DISTRIBUTION: 1 SP/1,500 SF (45,000 SF) = 30 SP.

TOTAL REQUIRED = 801 SPACES
*TOTAL REQUIRED (CLIENT REQUIREMENT) = 904 SPACES

PROPOSED: 927 SPACES

- THE PROPERTY WILL BE SERVICED BY THE FOLLOWING SERVICES:
DRAINAGE: PRIVATE
SEWER: MUNICIPAL
WATER: MUNICIPAL
ELECTRIC: UNTIL
- BOUNDARY INFORMATION SHOWN HEREON IS BASED ON REFERENCE PLAN INFORMATION.
- TOPOGRAPHY WAS GENERATED FROM REFERENCE PLAN INFORMATION.
- WETLANDS INFORMATION DEPICTED ON THIS PLAN IS FROM REFERENCE PLAN INFORMATION.
- EXAMINATION OF THE FLOOD INSURANCE RATE MAP FOR THE CITY OF CONCORD, NEW HAMPSHIRE, COMMUNITY PANEL NUMBER 330130337E, EFFECTIVE DATE: APRIL 18, 2010, INDICATES THAT THE SUBJECT PARCEL IS PARTIALLY LOCATED WITHIN A FLOOD HAZARD AREA.
- EASEMENTS, RIGHTS, AND RESTRICTIONS SHOWN ARE THOSE WHICH IDENTIFIED BASED ON DATA USED IN CONCEPTUAL DESIGN. OTHER RIGHTS, EASEMENTS, OR RESTRICTIONS MAY EXIST WHICH DEED RESEARCH AND A TITLE EXAMINATION OF SUBJECT PARCEL(S) WOULD DETERMINE.
- THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. TFMORAN INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 811.

TAX MAP 06P LOTS 5 & 6
COMPREHENSIVE DEVELOPMENT PLAN
MIXED USE DEVELOPMENT
WHITNEY ROAD, CONCORD, NH
OWNED BY
BRADLEY WHITNEY & JENNIFER HABEL & INTERCHANGE DEVELOPMENT L.L.C.
PREPARED FOR
INTERCHANGE DEVELOPMENT L.L.C.
SCALE: 1"=80'
JUNE 17, 2019

TABLE OF ZONING REGULATIONS- CONCORD, NH		
ZONE: GATEWAY PERFORMANCE DISTRICT (GWP)		
PHASE 1		
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM LOT AREA Sq Ft	NONE	43,038 AC
MINIMUM LOT FRONTAGE	300'	992.57'
MINIMUM FRONT YARD BUILDING SETBACK	25'	668.62' 1,105.47'
MINIMUM REAR YARD BUILDING SETBACK	25'	1,115.78' 450.22'
MINIMUM SIDE YARD BUILDING SETBACK	25'	59.10' 92.38'
MINIMUM FRONT YARD PARKING SETBACK	10' (WHITNEY RD)	458.45' 678.05'
MINIMUM REAR YARD PARKING SETBACK	5'	1,177.91' 413.87'
MINIMUM SIDE YARD PARKING SETBACK	10' (US ROUTE 4)	14.75' 14.93'
MINIMUM NUMBER PARKING SPACES	SUPERMARKET: 1 SP/ 250 SF (80,775 SF)= 323 SP RETAIL 1: 1 SP/ 250 SF (22,483 SF)= 90 SP RETAIL 2: 1 SP/ 250 SF (13,554 SF)= 54 SP NET: 467 SP	632 SPACES (INCL. 28 ADA)
MINIMUM NUMBER ADA PARKING SPACES	2% OF 464 = 9.3 SP	28 SP
PARKING SPACE DIMENSIONS	19' X 9' / 16' X 8' (COMPACT)	19' X 9' / 16' X 8' (COMPACT)
MINIMUM LOADING AREAS	3 SPACE FOR RETAIL @ 103,000 SF 1 SPACE FOR RETAIL @ 13,500 SF	4 SPACES FOR RETAIL @ 103,000 SF 1 SPACE FOR RETAIL @ 13,500 SF
MINIMUM DRIVE-THRU STACKING	N/A	N/A
MINIMUM INTERNAL LANDSCAPING	5% OF PARKING / CIRCULATION AREAS	5.00%
MAXIMUM BUILDING HEIGHT	45'	37.0' Supermarket 25.5' Liquor Store
MAXIMUM LOT COVERAGE (IMPERVIOUS)	85%	41%
MAXIMUM WALL SIGN AREA	40 SF W/O ARCHITECTURAL REVIEW 150 SF W/ ARCHITECTURAL REVIEW	150 SF MAX

TABLE OF ZONING REGULATIONS- CONCORD, NH		
ZONE: GATEWAY PERFORMANCE DISTRICT (GWP)		
PHASE 2		
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM LOT AREA Sq Ft	NONE	43,038 AC
MINIMUM LOT FRONTAGE	300'	992.57'
MINIMUM FRONT YARD BUILDING SETBACK	25'	84.00'
MINIMUM REAR YARD BUILDING SETBACK	25'	1152.32'
MINIMUM SIDE YARD BUILDING SETBACK	25'	57.2'
MINIMUM FRONT YARD PARKING SETBACK	10' (WHITNEY RD)	15.00'
MINIMUM REAR YARD PARKING SETBACK	5'	890.34'
MINIMUM SIDE YARD PARKING SETBACK	10' (US ROUTE 4)	15.00'
MINIMUM NUMBER PARKING SPACES	RETAIL: 1 SP/ 250 SF (29,080 SF)= 116 SP RESTAURANT: 1 SP/ 75 SF (7,172 SF)= 96 SP FAST FOOD: 1 SP/ 75 SF (2,400 SF)= 32 SP BANK: 1 SP/ 200 SF (2,400 SF)= 12 SP DENTAL OFFICE/EYE CARE: 1 SP/ 225 (4,000 SF)= 18 SP OFFICE: 1 SP/ 225 SF (7,000 SF)= 31 SP NET : 305 SP	PROPOSED= 260 SP (INC. 19 ADA) PROVIDED= 895 SPACES (INCL. 47 ADA)
MINIMUM NUMBER ADA PARKING SPACES	8 SP	PROPOSED= 19 SP PROVIDED= 47 SP
PARKING SPACE DIMENSIONS	19' X 9' / 16' X 8' (COMPACT)	19' X 9' / 16' X 8' (COMPACT)
MINIMUM LOADING AREAS	NONE REQUIRED FOR OTHER USES	4 SPACES
MINIMUM DRIVE-THRU STACKING	BANK: 5 STACKING SP PER WINDOW FAST FOOD: 11 STACKING SP PER WINDOW RETAIL (PHARMACY): 11 STACKING SP PER WINDOW	BANK= 10 SP FAST FOOD= 11 SP RETAIL (PHARMACY)= 11 SP
MINIMUM INTERNAL LANDSCAPING	5% OF PARKING / CIRCULATION AREAS	5.00%
MAXIMUM BUILDING HEIGHT	45'	<45'
MAXIMUM LOT COVERAGE (IMPERVIOUS)	85%	52%
MAXIMUM WALL SIGN AREA	40 SF W/O ARCHITECTURAL REVIEW 150 SF W/ ARCHITECTURAL REVIEW	150 SF MAX
MAXIMUM NUMBER WALL SIGNS	3 WALL SIGNS PER WALL FRONTAGE ON STREET NOT TO EXCEED ALLOWED AREA	6 WALL SIGNS PER BUILDING MAX.

APPROVED BY THE CONCORD PLANNING BOARD

ON _____
CHAIRMAN: _____ AND _____
CLERK: _____

4	5/3/2022	UPDATE CDP	JSH	—
3	10/6/2021	REVISIONS PER NOTICE OF DECISION	PWH	JSH
2	8/20/2021	REVISIONS PER CITY COMMENTS	PWH	JSH
1	7/12/2021	REV. PER FAST FOOD RESTAURANT SUBMITTAL	PWH	JSH
REV	DATE	DESCRIPTION	DR	CK



Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

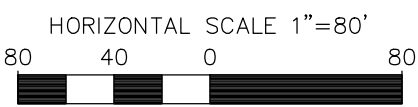
48 Constitution Drive
Bedford, NH 03110
Phone (603) 472-4488
Fax (603) 472-9747
www.tfmoran.com

FILE	95830.04	DR JSH FB CK RED	CAOFILE	95830-04 Site Plans	C-3
------	----------	---------------------	---------	---------------------	-----

Copyright 2021 ©TFMoran, Inc.
48 Constitution Drive, Bedford, N.H. 03110

All rights reserved. These plans and materials may not be copied, duplicated, replicated or otherwise reproduced in any form whatsoever without the prior written permission of TFMoran, Inc.

This plan is not effective unless signed by a duly authorized officer of TFMoran, Inc.



ITE Trip Generation Manual, 10th Edition
Setting/Location: General Urban/Suburban

ITE Trip Generation Handbook, 3rd Edition

Proposed Trip Generation - Interchange Development (Full Build)

Proposed Composition - Interchange Development (Full Build)

Land Use A - Supermarket

ITE LUC 850 - Supermarket: 80,775 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	80.78	3.82	Rate	309	60%	40%	185	124
Weekday PM Peak Hour Adjacent Street	80.78	9.24	Rate	746	51%	49%	380	366
Weekend SAT Peak Hour of the Generator	80.78	10.34	Rate	835	51%	49%	426	409

ITE LUC 850 - Supermarket: 80,775 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	26%	48	26%	32	36%	67	36%	45	38%	70	38%	47
PM	26%	99	26%	95	36%	137	36%	132	38%	144	38%	139
SAT	26%	111	26%	106	36%	153	36%	147	38%	162	38%	155

**LUC 850 Supermarket: Table E.13 (PM)

Land Use B - Shopping Center (Retail, Restaurant, Bank)

ITE LUC 820 - Shopping Center: 88,822 sf (14,842+13,545+22,483+6,052+2,160+1,500+2,750+2,500+22,990)

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	88.8	0.94	Rate	83	62%	38%	51	32
Weekday PM Peak Hour Adjacent Street	88.8	*see below	Eq	498	48%	52%	239	259
Weekend SAT Peak Hour of the Generator	88.8	**see below	Eq	564	52%	48%	293	271

ITE LUC 820 - Shopping Center: 88,822 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	40%	20	40%	13	34%	17	34%	11	26%	13	26%	8
PM	40%	96	40%	104	34%	81	34%	88	26%	62	26%	67
SAT	39%	114	39%	106	26%	76	26%	70	35%	103	35%	95

**LUC 820 Shopping Center: Table E.9 (PM)

**LUC 820 Shopping Center: Table E.10 (SAT)

PM Equation: * $\ln(T) = 0.74 \cdot \ln(X) + 2.89$

SAT Equation: ** $\ln(T) = 0.79 \cdot \ln(X) + 2.79$

Land Use C - Medical Office

ITE LUC 720 - Medical-Dental Office: 9,620 sf (6,020+3,600)

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	9.6	2.78	Rate	27	78%	22%	21	6
Weekday PM Peak Hour Adjacent Street	9.6	3.46	Rate	33	28%	72%	9	24
Weekend SAT Peak Hour of the Generator	9.6	3.1	Rate	30	57%	43%	17	13

ITE LUC 720 - Medical-Dental Office: 9,620 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	100%	21	100%	6	0%	0	0%	0	0%	0	0%	0
PM	100%	9	100%	24	0%	0	0%	0	0%	0	0%	0
SAT	100%	17	100%	13	0%	0	0%	0	0%	0	0%	0

Land Use D - Industrial: Distribution/Warehouse

ITE LUC 110 - General Light Industrial: 45,000 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	45	0.70	Rate	32	88%	12%	28	4
Weekday PM Peak Hour Adjacent Street	45	0.63	Rate	28	13%	87%	4	24
Weekend SAT Peak Hour of the Generator	45	0.41	Rate	18	47%	53%	8	10

ITE LUC 110 - General Light Industrial: 45,000 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	100%	28	100%	4	0%	0	0%	0	0%	0	0%	0
PM	100%	4	100%	24	0%	0	0%	0	0%	0	0%	0
SAT	100%	8	100%	10	0%	0	0%	0	0%	0	0%	0

Proposed Total Site Trip Generation - Interchange Development (Full Build)					
		Trip Ends		In	Out
Weekday AM Peak Hour Adjacent Street		451		285	166
Weekday PM Peak Hour Adjacent Street		1305		632	673
Weekend SAT Peak Hour of the Generator		1447		744	703

Proposed Total Site Composition - Interchange Development (Full Build)									
	Primary			Pass-By			Diverted Link		
	%	# In	# Out	%	# In	# Out	%	# In	# Out
AM	38%	117	55	31%	84	56	31%	83	55
PM	35%	208	247	34%	218	220	32%	206	206
SAT	34%	250	235	31%	229	217	36%	265	250

Proposed Total Site Trip Generation minus Internal Capture - Interchange Development (Full Build)

AM		Trips		In	Out
Weekday AM Peak Hour Adjacent Street		450		284	166
AM Internal Trip Capture Deduction: -8%		-35		-23	-12
Total Interchange (FB) AM Trips		415		261	154

PM		Trips		In	Out
Weekday PM Peak Hour Adjacent Street		1305		632	673
PM Internal Trip Capture Deduction: -12%		-157		-76	-81
Total Total Interchange (FB) PM Trips		1148		556	592

SAT		Trips		In	Out
Weekend SAT Peak Hour of Generator		1446		744	702
SAT Internal Trip Capture Deduction: -12%		-173		-89	-84
Total Total Interchange (FB) SAT Trips		1273		655	618

Proposed Total Site Composition minus Internal Capture - Interchange Development (Full Build)

	Primary		Pass-By		Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
AM	117	55	84	56	83	55
-8%	-9	-4	-7	-4	-7	-4
Total AM	108	51	77	52	76	51

	Primary		Pass-By		Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
PM	208	247	218	220	206	206
-12%	-25	-30	-26	-26	-25	-25
Total PM	183	217	192	194	181	181

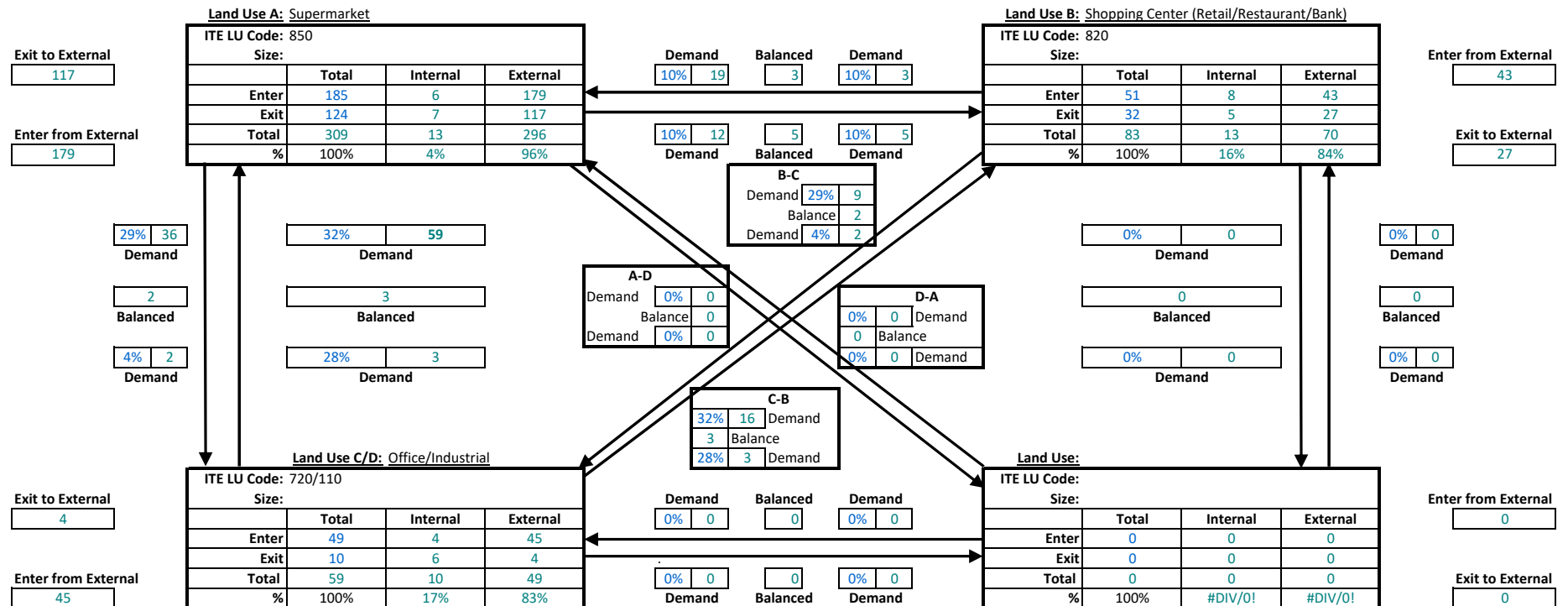
	Total Primary		Total Pass-By		Total Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
SAT	250	235	229	217	265	250
-12%	-30	-28	-27	-26	-32	-30
Total SAT	220	207	202	191	233	220

Internal Capture: based on engineering judgement. See calculations for explanation

Multi-Use Development - Interchange Full Build
Trip Generation and Internal Capture Summary

Analyst: TFMoran Inc.
Project: 95830.00
Time Period: AM

Based on discussions with NHDOT an interaction of 10% is applied for supermarket to retail.
The 2nd edition of ITE's Trip Generation Handbook shows interaction of 20% between retail to retail.
10% interaction is used as a conservative estimate.



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Land Use D	Total
Enter	179	43	45	0	267
Exit	117	27	4	0	148
Total	296	70	49	0	415
Single-Use Trip Gen. Est.	309	83	59	0	451

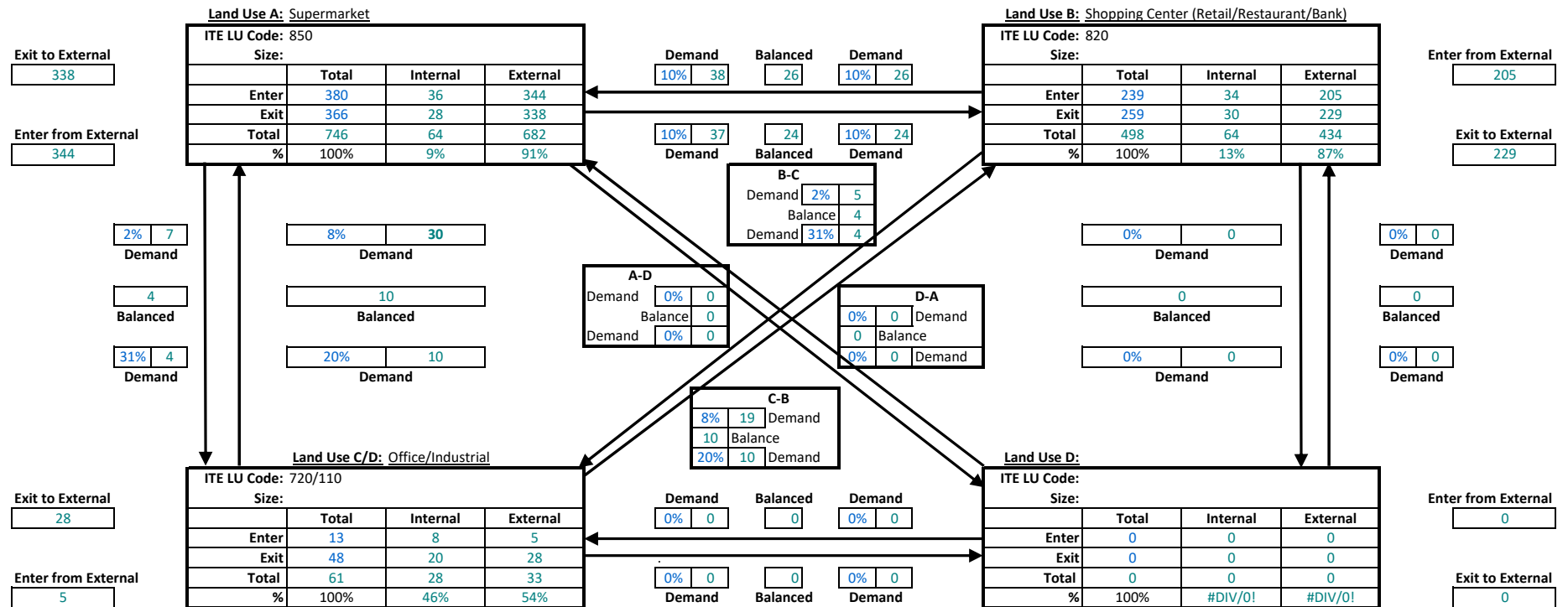
Internal Capture
8%

UPDATE

Multi-Use Development - Interchange Full Build
Trip Generation and Internal Capture Summary

Analyst: TFMoran Inc.
Project: 95830.00
Time Period: PM

Based on discussions with NHDOT an interaction of 10% is applied for supermarket to retail.
The 2nd edition of ITE's Trip Generation Handbook shows interaction of 20% between retail to retail.
10% interaction is used as a conservative estimate.



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Land Use D	Total
Enter	344	205	5	0	554
Exit	338	229	28	0	595
Total	682	434	33	0	1149
Single-Use Trip Gen. Est.	746	498	61	0	1305
					Internal Capture
					12%

ITE Trip Generation Manual, 10th Edition
Setting/Location: General Urban/Suburban

ITE Trip Generation Handbook, 3rd Edition

Proposed Trip Generation - Interchange Development (Full Build)

Proposed Composition - Interchange Development (Full Build)

Land Use A - Supermarket

ITE LUC 850 - Supermarket: 79,895 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	79.9	3.82	Rate	305	60%	40%	183	122
Weekday PM Peak Hour Adjacent Street	79.9	9.24	Rate	738	51%	49%	376	362
Weekend SAT Peak Hour of the Generator	79.9	10.34	Rate	826	51%	49%	421	405

ITE LUC 850 - Supermarket: 79,895 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	26%	48	26%	32	36%	66	36%	44	38%	69	38%	46
PM	26%	98	26%	94	36%	135	36%	130	38%	143	38%	138
SAT	26%	109	26%	105	36%	152	36%	146	38%	160	38%	154

**LUC 850 Supermarket: Table E.13 (PM)

Land Use B - Shopping Center (Retail, Restaurant, Bank)

ITE LUC 820 - Shopping Center: 71,429 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	71.4	0.94	Rate	67	62%	38%	42	25
Weekday PM Peak Hour Adjacent Street	71.4	*see below	Eq	423	48%	52%	203	220
Weekend SAT Peak Hour of the Generator	71.4	**see below	Eq	474	52%	48%	246	228

PM Equation: * $\ln(T) = 0.74 \cdot \ln(X) + 2.89$

SAT Equation: ** $\ln(T) = 0.79 \cdot \ln(X) + 2.79$

ITE LUC 820 - Shopping Center: 71,429 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	40%	17	40%	10	34%	14	34%	9	26%	11	26%	6
PM	40%	81	40%	88	34%	69	34%	75	26%	53	26%	57
SAT	39%	96	39%	89	26%	64	26%	59	35%	86	35%	80

**LUC 820 Shopping Center: Table E.9 (PM)

**LUC 820 Shopping Center: Table E.10 (SAT)

Land Use C - Medical Office

ITE LUC 720 - Medical-Dental Office: 13,992 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	14	2.78	Rate	39	78%	22%	30	9
Weekday PM Peak Hour Adjacent Street	14	3.46	Rate	48	28%	72%	13	35
Weekend SAT Peak Hour of the Generator	14	3.1	Rate	43	57%	43%	25	18

ITE LUC 720 - Medical-Dental Office: 13,992 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	100%	30	100%	9	0%	0	0%	0	0%	0	0%	0
PM	100%	13	100%	35	0%	0	0%	0	0%	0	0%	0
SAT	100%	25	100%	18	0%	0	0%	0	0%	0	0%	0

Land Use D - Industrial: Distribution/Warehouse

ITE LUC 110 - General Light Industrial: 45,000 sf

Time Period	Rate/Equ		Rate/ Eq Used	Trip Ends	Directional Split		Directional Distribution	
	X	Rate			In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	45	0.70	Rate	32	88%	12%	28	4
Weekday PM Peak Hour Adjacent Street	45	0.63	Rate	28	13%	87%	4	24
Weekend SAT Peak Hour of the Generator	45	0.41	Rate	18	47%	53%	8	10

ITE LUC 110 - General Light Industrial: 45,000 sf

	Primary				Pass-By				Diverted Link			
	% In	# In	% Out	# Out	% In	# In	% Out	# Out	% In	# In	% Out	# Out
AM	100%	28	100%	4	0%	0	0%	0	0%	0	0%	0
PM	100%	4	100%	24	0%	0	0%	0	0%	0	0%	0
SAT	100%	8	100%	10	0%	0	0%	0	0%	0	0%	0

Proposed Total Site Trip Generation - Interchange Development (Full Build)

	Trip Ends	In	Out
Weekday AM Peak Hour Adjacent Street	443	283	160
Weekday PM Peak Hour Adjacent Street	1237	596	641
Weekend SAT Peak Hour of the Generator	1361	700	661

Proposed Total Site Composition - Interchange Development (Full Build)

	Primary			Pass-By			Diverted Link		
	%	# In	# Out	%	# In	# Out	%	# In	# Out
AM	40%	123	55	30%	80	53	30%	80	52
PM	35%	196	241	33%	204	205	32%	196	195
SAT	34%	238	222	31%	216	205	35%	246	234

Proposed Total Site Trip Generation minus Internal Capture - Interchange Development (Full Build)

<u>AM</u>		<u>Trips</u>	In	Out
Weekday AM Peak Hour Adjacent Street		443	283	160
9% AM Internal Trip Capture Deduction		-40	-25	-15
Total Interchange (FB) AM Trips		403	258	145

Proposed Total Site Composition minus Internal Capture - Interchange Development (Full Build)

	Primary		Pass-By		Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
AM	123	55	80	53	80	52
-9%	-11	-5	-7	-5	-7	-5
Total AM	112	50	73	48	73	47

<u>PM</u>		<u>Trips</u>	In	Out
Weekday PM Peak Hour Adjacent Street		1237	596	641
12% PM Internal Trip Capture Deduction		-149	-72	-77
Total Total Interchange (FB) PM Trips		1088	524	564

	Primary		Pass-By		Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
PM	196	241	204	205	196	195
-12%	-24	-29	-24	-25	-24	-23
Total PM	172	212	180	180	172	172

<u>SAT</u>		<u>Trips</u>	In	Out
Weekend SAT Peak Hour of Generator		1361	700	661
12% SAT Internal Trip Capture Deduction		-165	-85	-80
Total Total Interchange (FB) SAT Trips		1196	615	581

	Total Primary		Total Pass-By		Total Diverted Link	
	# In	# Out	# In	# Out	# In	# Out
SAT	238	222	216	205	246	234
-12%	-29	-27	-26	-25	-30	-28
Total SAT	209	195	190	180	216	206

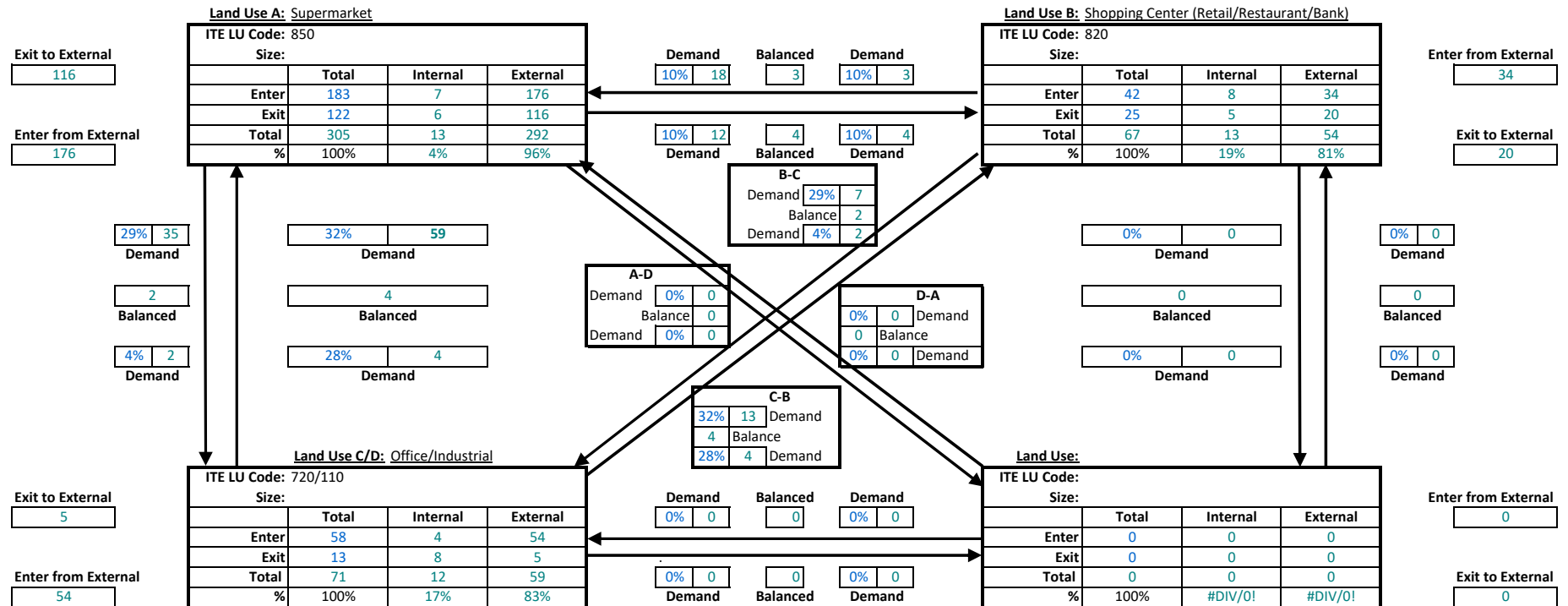
Internal Capture: based on engineering judgement. See calculations for explanation

APPROVED

Multi-Use Development - Interchange Full Build
Trip Generation and Internal Capture Summary

Analyst: TFMoran Inc.
Project: 95830.00
Time Period: AM

Based on discussions with NHDOT an interaction of 10% is applied for supermarket to retail.
The 2nd edition of ITE's Trip Generation Handbook shows interaction of 20% from retail to retail.
10% interaction is used as a conservative estimate.

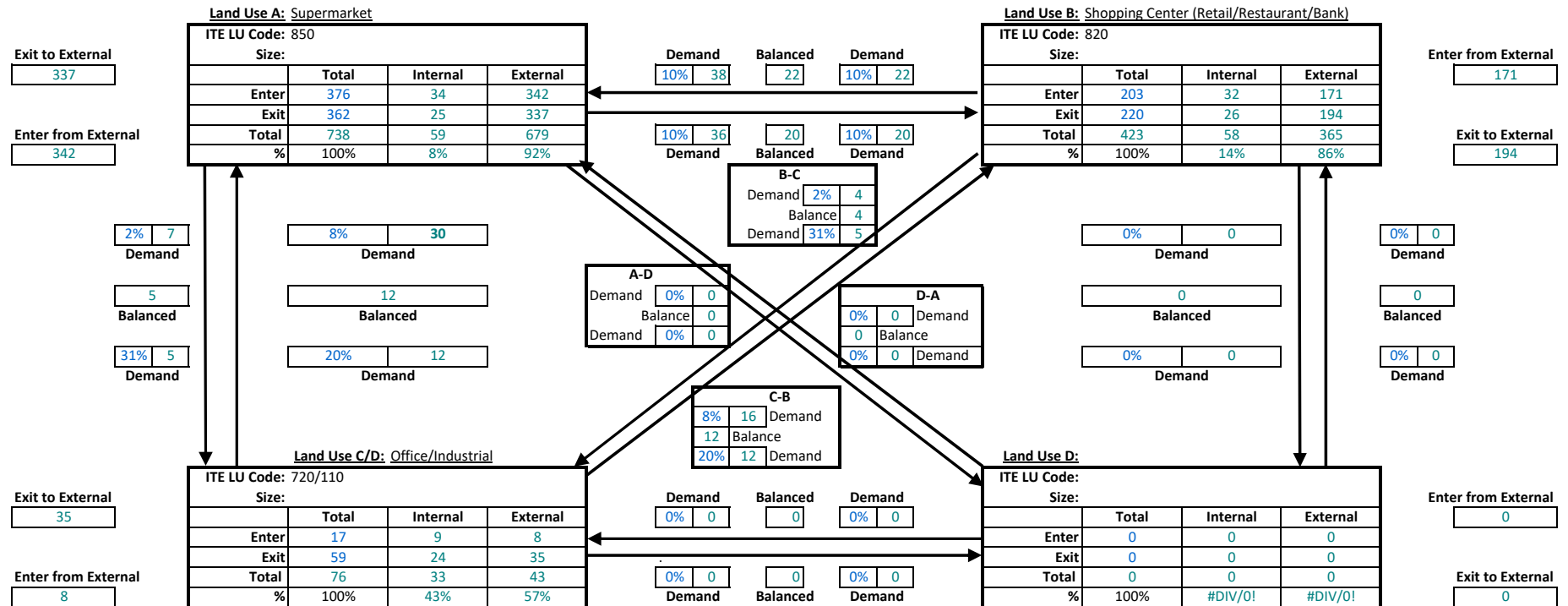


Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Land Use D	Total
Enter	176	34	54	0	264
Exit	116	20	5	0	141
Total	292	54	59	0	405
Single-Use Trip Gen. Est.	305	67	71	0	443
					Internal Capture 9%

Multi-Use Development - Interchange Full Build
Trip Generation and Internal Capture Summary

Analyst: TFMoran Inc.
Project: 95830.00
Time Period: PM

Based on discussions with NHDOT an interaction of 10% is applied for supermarket to retail.
The 2nd edition of ITE's Trip Generation Handbook shows interaction of 20% from retail to retail.
10% interaction is used as a conservative estimate.



Net External Trips for Multi-Use Development					
	Land Use A	Land Use B	Land Use C	Land Use D	Total
Enter	342	171	8	0	521
Exit	337	194	35	0	566
Total	679	365	43	0	1087
Single-Use Trip Gen. Est.	738	423	76	0	1237
					Internal Capture 12%

SITE TRIPS

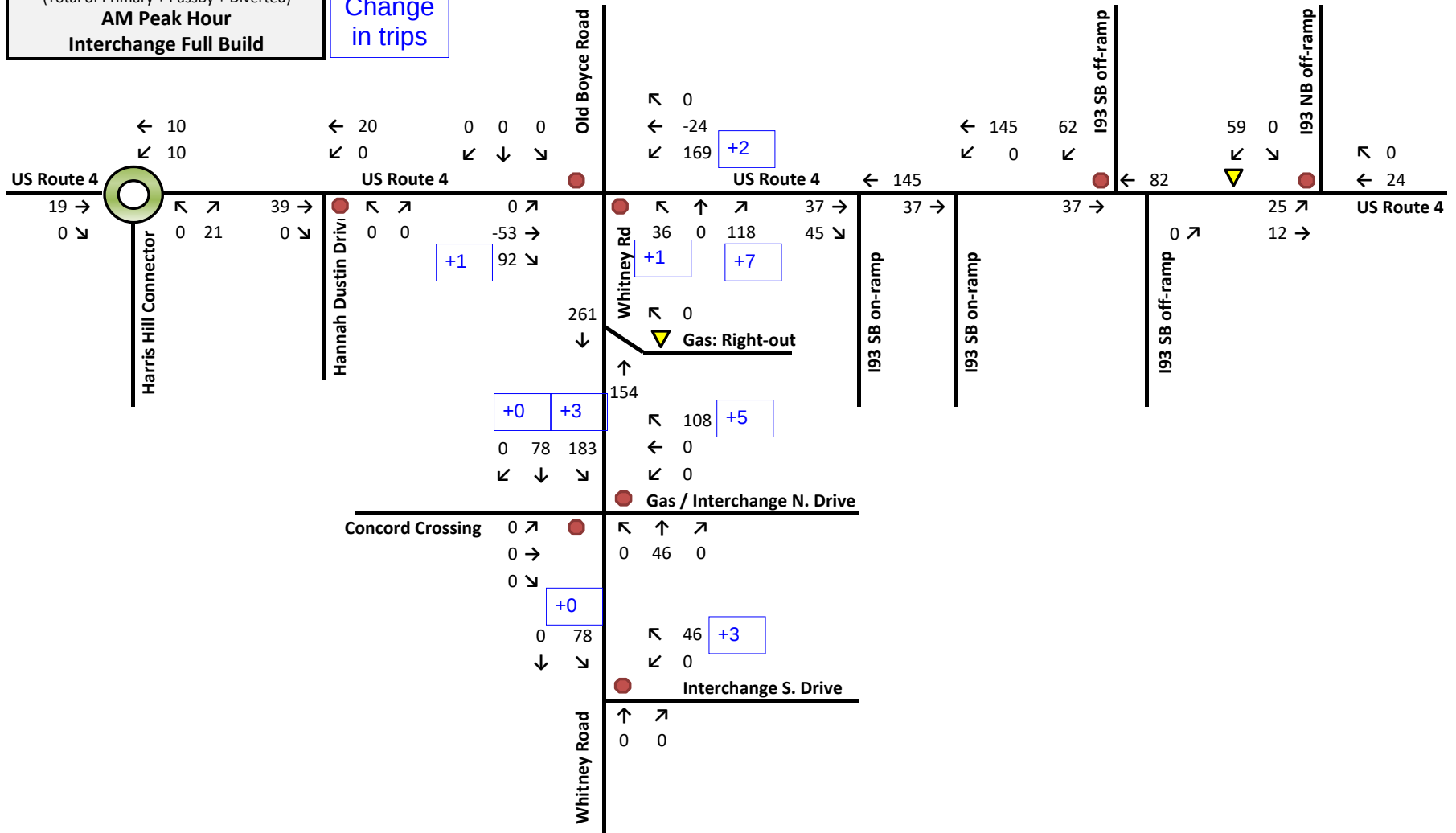
(Total of Primary + PassBy + Diverted)

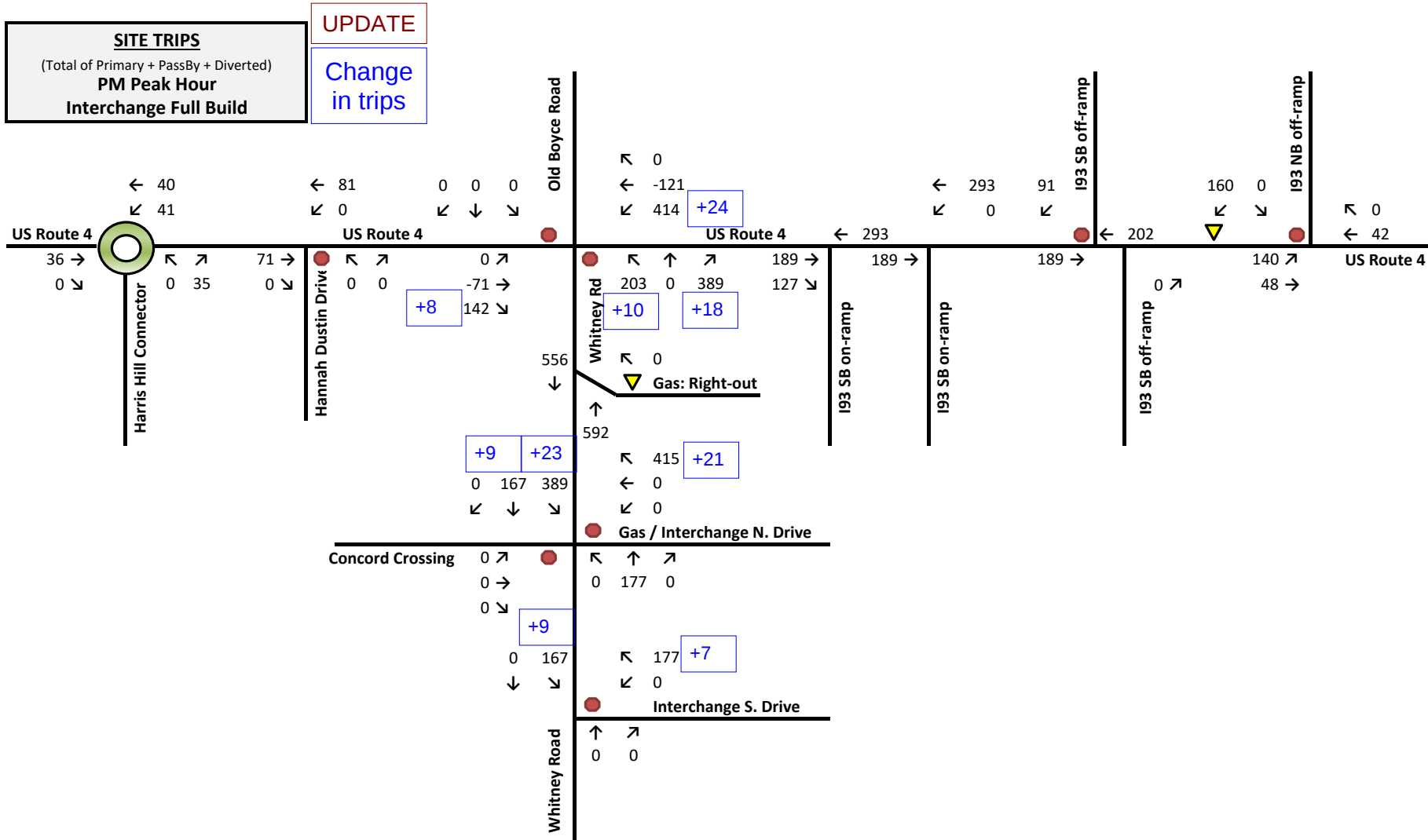
AM Peak Hour

Interchange Full Build

UPDATE

**Change
in trips**



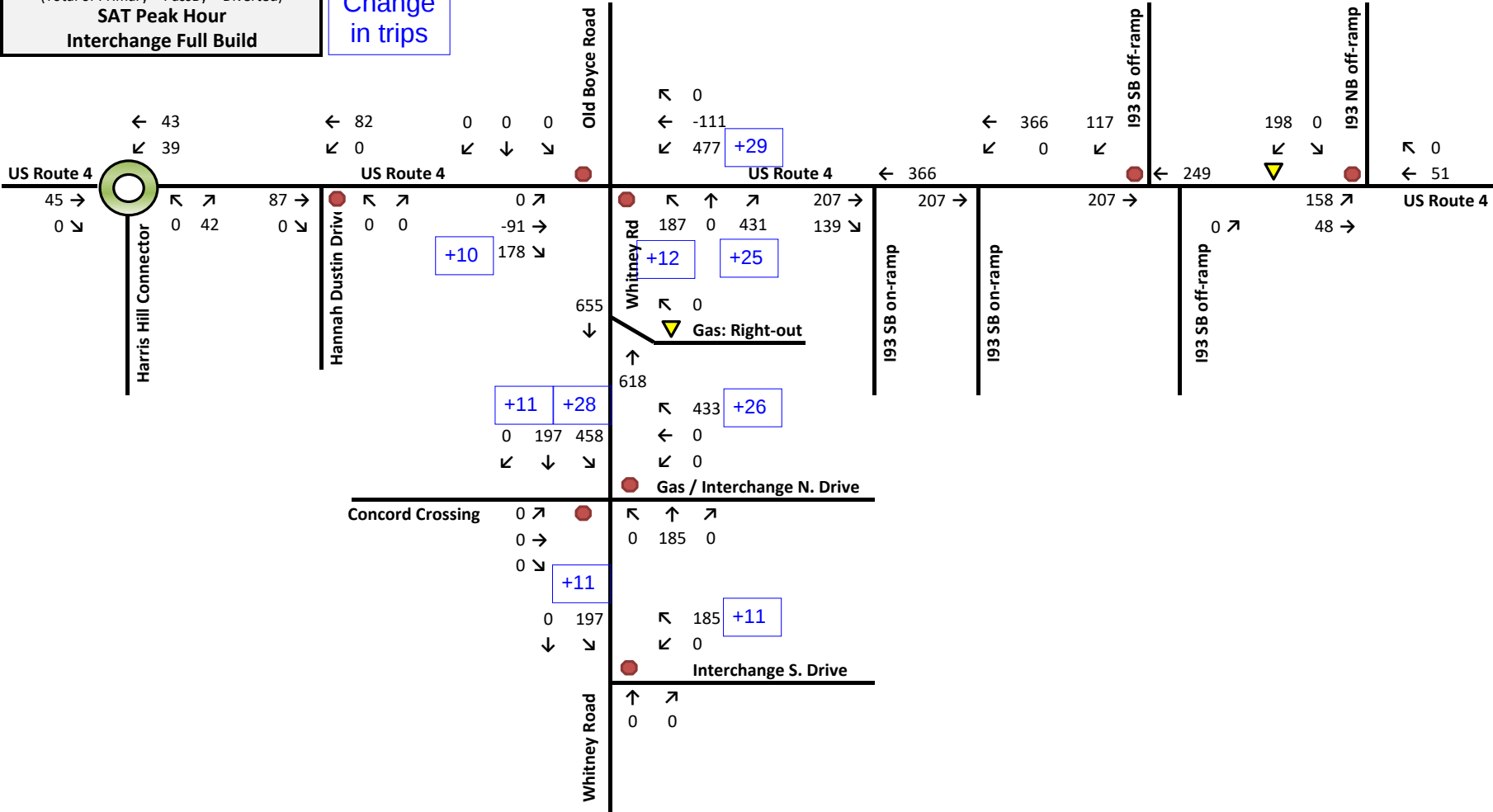


SITE TRIPS
(Total of Primary + PassBy + Diverted)
SAT Peak Hour
Interchange Full Build

SITE TRIPS
(Total of Primary + PassBy + Diverted)
SAT Peak Hour
Interchange Full Build

UPDATE

Change
in trips



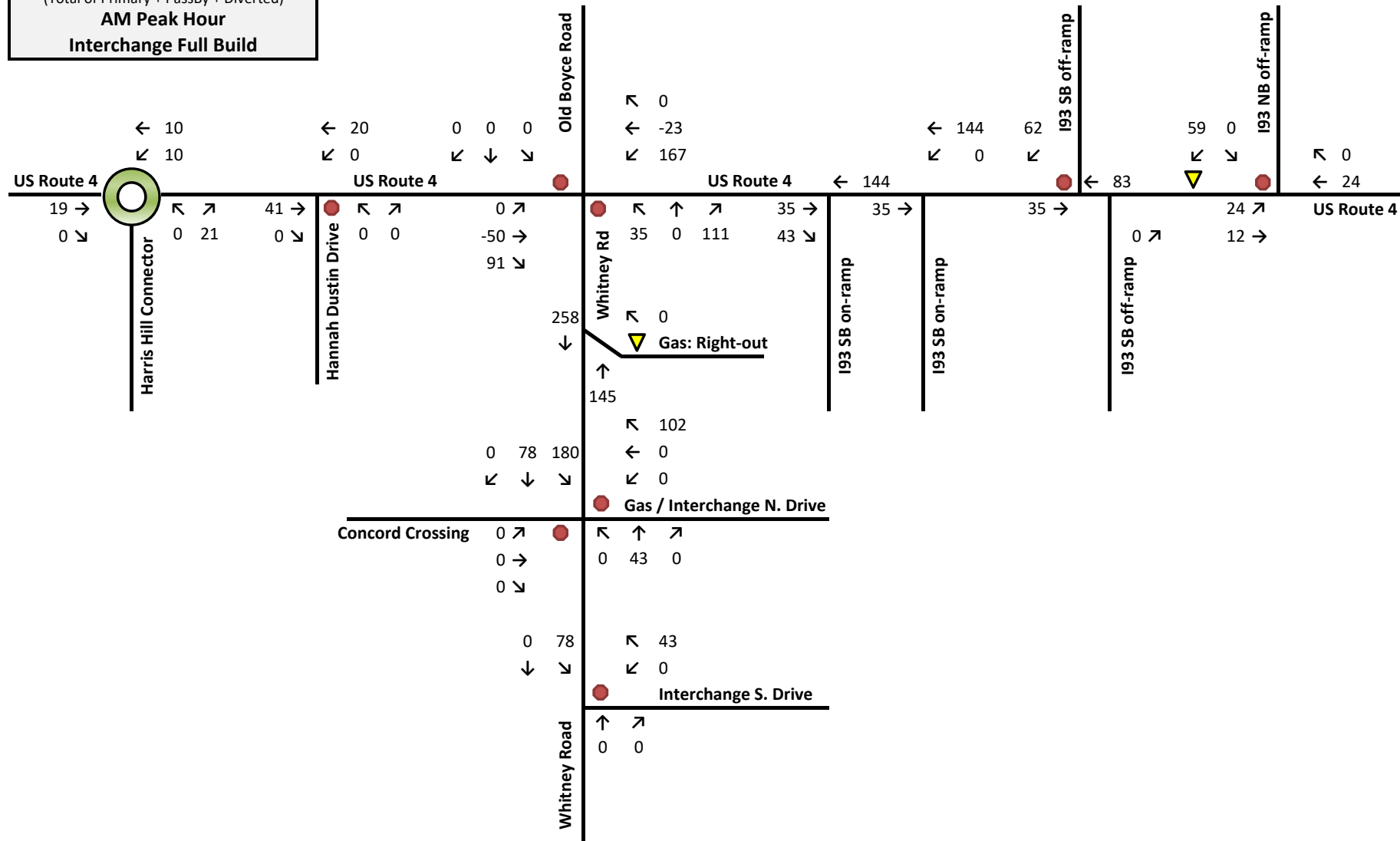
SITE TRIPS

(Total of Primary + PassBy + Diverted)

AM Peak Hour

Interchange Full Build

APPROVED



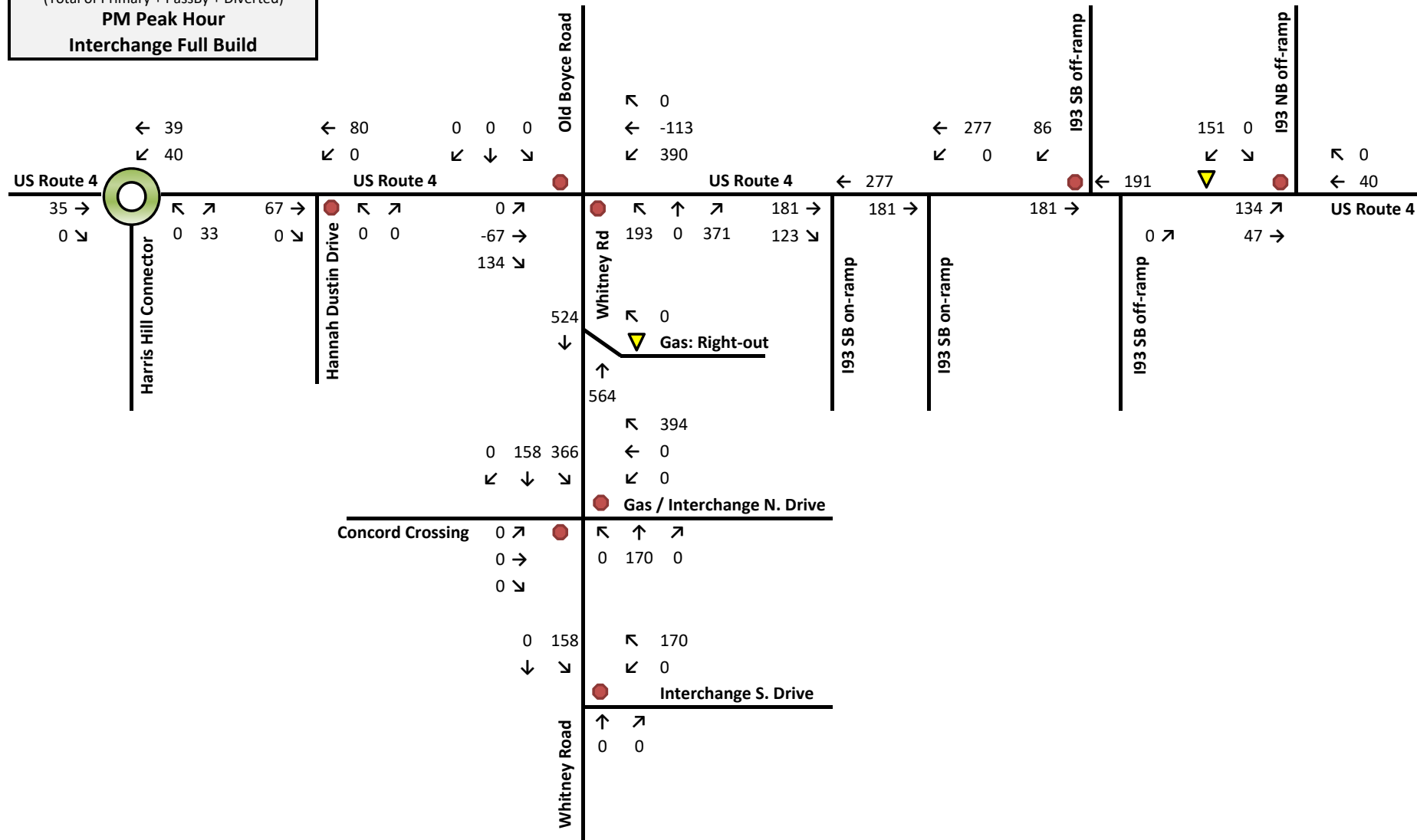
SITE TRIPS

(Total of Primary + PassBy + Diverted)

PM Peak Hour

Interchange Full Build

APPROVED



SITE TRIPS

(Total of Primary + PassBy + Diverted)

**SAT Peak Hour
Interchange Full Build**

APPROVED

