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## **FREDERICK P. CLARK ASSOCIATES, INC.**

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT  
RYE, NEW YORK FAIRFIELD, CONNECTICUT

# **TRAFFIC ACCESS AND IMPACT STUDY**

## **Proposed New LifeTime Fitness Building High Ridge Park Stamford, Connecticut**



**Prepared for:  
George Comfort & Sons, Inc.  
LifeTime**

**July 2017**



**FREDERICK P. CLARK ASSOCIATES, INC.**

PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT  
RYE, NEW YORK                      FAIRFIELD, CONNECTICUT

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# **TRAFFIC ACCESS AND IMPACT STUDY**

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## **Proposed New LifeTime Fitness Building High Ridge Park Stamford, Connecticut**

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July 11, 2017

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Mr. Steven Ketchabaw  
Vice President  
George Comfort & Sons, Inc.  
2 Manhattanville Road  
Purchase, New York 10577

Dear Ms. Eaton and Mr. Ketchabaw:

We are pleased to submit this Traffic Study, which was completed for the proposed LifeTime Fitness Building at High Ridge Park, located near Interchange 35 of the Merritt Parkway in Stamford, Connecticut. The proposed development comprises an 114,000 square-foot Fitness Center which will replace an existing 83,888 square-foot office building (Building 3) on-site and another 6,128 square-feet of office space located within the existing office park facility (which will be converted to storage). An access drive will be provided to the internal High Ridge Park access roadway.

It is anticipated that the proposed Fitness Center will generate a total of 161, 402 and 317 total trip ends, of which 56, 141 and 0 will be internal trips ends from the adjacent office buildings during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. If Building 3 were to remain and be re-occupied with medical uses (the most likely tenants based on current market trends) and the 6,128 square-foot office space (to be removed) remained, it is anticipated that it will generate a total of 210, 309 and 308 vehicle trip ends during the three peak hours, respectively. Therefore, the proposed development is anticipated to generate a net reduction of 105 and 48 vehicle trip ends during the weekday peak hours and a very modest increase of 9 total vehicle trip ends during the Saturday midday peak hour.

While results of the capacity and the storage/queue analyses indicate that the Study Area intersections generally operate with traffic delay during the Study Area peak hours, this condition is not exacerbated by the proposed development. Moreover, the construction of the proposed development will result in a net decrease in traffic impact when compared to the office use on the Campus. Further, details regarding these traffic conditions are included in the report.

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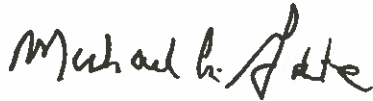
Ms. Megan Eaton  
Mr. Steven Ketchabaw

Page 2

July 11, 2017

Based on the results of this traffic analysis, off-site traffic operational changes or roadway improvements are not needed to accommodate this new development and removal of an office use.

Sincerely,



Michael A. Galante  
Executive Vice President

Enclosure

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## SUMMARY

A Traffic Access and Impact Study was prepared to provide the City of Stamford, Connecticut Department of Transportation (ConnDOT) and the Office of the State Traffic Administration (OSTA) with a detailed analysis to determine potential traffic impacts from the proposed LifeTime Fitness Building. The site is located in the westerly side within the High Ridge Park. The proposed 114,000 square-foot Fitness Center will replace the existing 83,888 square-foot Building 3 and approximately 6,128 square-feet of office space from the office park facility, which will be converted to storage space. For the purposes of completing the Study, the proposed development is expected to be completed and fully occupied by the end of 2019.

This Traffic Study addresses traffic conditions for the 2017 existing, the 2019 future no-build and build conditions during the weekday morning, weekday afternoon and Saturday midday peak hours of the adjacent street system. The 2017 baseline traffic volumes were extracted from manual turning movement counts conducted for all but one of the Study Area intersections in January and March of 2017 during the weekday morning, weekday afternoon and Saturday midday peak periods. Traffic volumes for the intersection of High Ridge Road at Cedar Heights Road/Turn of River Road were derived from another Traffic Study prepared by this office.

Future no-build traffic volumes, without the proposed development, assumed that the currently vacant Building 3 was re-occupied with medical uses (because current market trends indicate that this would be the most likely user group). A 0.6 percent annual growth rate was employed to the existing traffic volumes to the design year of 2019 as required by ConnDOT. No other developments were identified by either the City of Stamford Planning Department or the ConnDOT Planning Division for inclusion in this analysis. The annual growth rate is consistent with the City of Stamford and ConnDOT rates.

Traffic generation for both the vacant Building 3 re-occupancy with medical uses and the proposed LifeTime Fitness building are based on trip generation rates provided by the Institute of



Transportation Engineers (ITE). It is anticipated that the removal of re-occupied Building 3 with medical office and the removal of 6,128 square-feet of office space from the existing office park facility will generate a total of 210, 309 and 308 fewer vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

It is anticipated that the proposed Fitness Center will generate a total of 161, 402 and 317 total trip ends, of which 56, 141 and 0 are internal trips and a 105, 261 and 317 are external vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The net difference between the re-occupancy of Building 3 with medical uses and the proposed development is a reduction of 105 and 48 vehicle trip ends during the weekday morning and weekday afternoon peak hours, respectively, and an increase of 9 vehicle trip ends during the Saturday midday peak hour. Thus, the proposed development will have a reduced traffic impact on area roadways during weekday peak hours compared to the no build condition and only generate 9 additional trips during the Saturday midday peak hour.

Based on a review of current traffic patterns at Study Area intersections, anticipated travel routes to the site and guidance from ConnDOT, a distribution plan was developed. As described above, the site access drives will be to the internal High Ridge Park driveway. It is assumed that all traffic will use the northerly internal access drive, to be conservative. It was determined that 20 percent of the site traffic will arrive from and depart to the east and west (each way), respectively, on State Route 15, 25 percent arrive from and depart to the east on Intervale Road, 15 percent will arrive from and depart to the north on High Ridge Road, 13 percent will arrive from and depart to the south on High Ridge Road and 7 percent will arrive from and depart to the west on Cedar Heights Road.

Future 2019 build traffic volumes were developed based on adding the net increase in site traffic generation to the 2019 no-build traffic volumes, as previously described.

A SYNCHRO 9 macroscopic capacity analysis was conducted for the 2017 existing, 2019 no-build and build conditions to identify incremental traffic impacts and needs that the proposed development will generate during peak hours.

Results of the capacity analysis and the storage/queue analysis indicate that certain Study Area intersections will continue to operate with traffic congestion during the Study Area peak hours. However, this condition is not exacerbated by the proposed development. In fact, in some instances, conditions will improve, and the construction of the proposed development will not result in a net increase in traffic impact during the weekday peak hours when compared to the permitted office use in the Campus.

## **INTRODUCTION**

This report has been prepared for submission to the City of Stamford, ConnDOT and OSTA to identify potential impacts and need for mitigation, if any, for the proposed LifeTime Fitness building, which will replace an existing office building. It will be located within High Ridge Park.

This report addresses typical weekday morning, weekday afternoon and Saturday midday peak hours to determine potential impact to adjacent and nearby roadways. The Study includes current roadway conditions, existing traffic volumes, accident experience, site traffic generation, assignment of this traffic and future build traffic volumes.

### **Project Description**

The proposal is to construct an 114,000 square-foot Fitness Center, which will replace the existing 83,888 square-foot Building 3 coupled with the removal of 6,128 square-foot office space (converted to storage space) from the existing office park facility. Access will be from within High Ridge Park. For purposes of completing this Traffic Study, it is assumed the design year is the end of 2019.

## EXISTING CONDITIONS

This section of the Traffic Report includes a description of the roadway inventory, nearby intersections, the results of recent traffic counts, traffic control and accident experience.

### Roadways

As noted above the site is located on the westerly side of High Ridge Park. The following is a description of nearby roadways:

1. High Ridge Road – This is a north-south, generally four-lane, State-maintained roadway, also designated State Route 137. It begins at the signalized intersection with Bedford Street/Summer Street/Long Ridge Road to the south of the Study Area and continues north. Traffic signals and turning lanes are provided at key intersections. To the north of the Study Area, it continues as a two-lane roadway passing into New York State. The State Route 15 interchange 35 ramps are controlled with traffic signals. It provides a double yellow centerline, shoulder lines and curbing in the Study Area. Certain sections of this road have sidewalks. A raised median is provided between Dunn Avenue and Buxton Farm Road. The roadway width is generally 58 feet to the south and 44 feet to the north of Buxton Farm Road, respectively. It has a posted speed limit is 40 miles per hour. CT Transit Bus Route 331 provides service along this road. Land use in the Study Area is mostly commercial development.
2. Buxton Farm Road – This is an east-west, two-lane, city-maintained roadway. It begins at the signalized intersection with High Ridge Road and continues in the easterly direction and terminates at the All-Way STOP controlled intersection with Turn of River Road. It provides a double yellow centerline and curbing. A sidewalk and NO PARKING ANYTIME sign is provided along the southerly side of the road from the Shopping Center middle driveway to the intersection with Turn of River Road. CT Transit Bus Route 331B provides stops along this road. Land uses are commercial.

3. Turn of River Road – This is mainly a north-south, two-lane, city-maintained roadway. It begins at the end of the High Ridge Park driveway and continues south terminating at the signalized intersection with High Ridge Road. Generally this road has the right-of-way, with most side roads being controlled with STOP signs. The intersections with Buxton Farm Road and Intervale Road are All-Way STOP controlled. It provides a double yellow centerline and curbing. This roadway has posted speed limit of 25 miles per hour in the Study Area. Land use is mainly residential.
4. Intervale Road – This is an east-west, two-lane, city-maintained roadway. It begins at the All-Way STOP controlled intersection with Turn of River Road and continues east. Just beyond the intersection with Joan Road this roadway continues as Newfield Drive. On this road the posted speed limit is 25 miles per hour. It provides a double yellow centerline, shoulder lines and curbing. A sidewalk is provided along the southerly side of the road. Land use is residential.
5. Cedar Heights Road – This is an east-west, two-lane, city-maintained roadway. It begins at the All-Way STOP controlled intersection with Wire Mill Road and continues east terminating at the signalized intersection with High Ridge Road. On this road the posted speed limit is 30 miles per hour. It provides a double yellow centerline, shoulder lines, curbing and sidewalks. Land use is residential.
6. High Ridge Park – This is a north-south and east-west, two-lane, private access roadway. It begins as a continuation of Turn of River Road and enters High Ridge Park serving the 6 office buildings. A center median and curbing are provided. This roadway has a posted speed limit of 20 miles per hour. CT Transit Bus Route 331B provides stops along this road.
7. Merritt Parkway – Although the Merritt Parkway is designated a north-south, State-maintained roadway, in Fairfield County it generally runs in an east-west direction. It is also designated State Route 15. It is a four-lane, median-divided parkway, limited to mostly passenger



vehicles. There is a full-movement interchange located at Interchange 35, which provides access to High Ridge Road, also designated State Route 137.

Figure 1 provides a graphic illustration of the site's location. Figure 2 provides a graphic illustration of the current street system characteristics. Photographs and the CT Transit Bus Route 331 schedule are included in the Appendix.

### **Traffic Volumes**

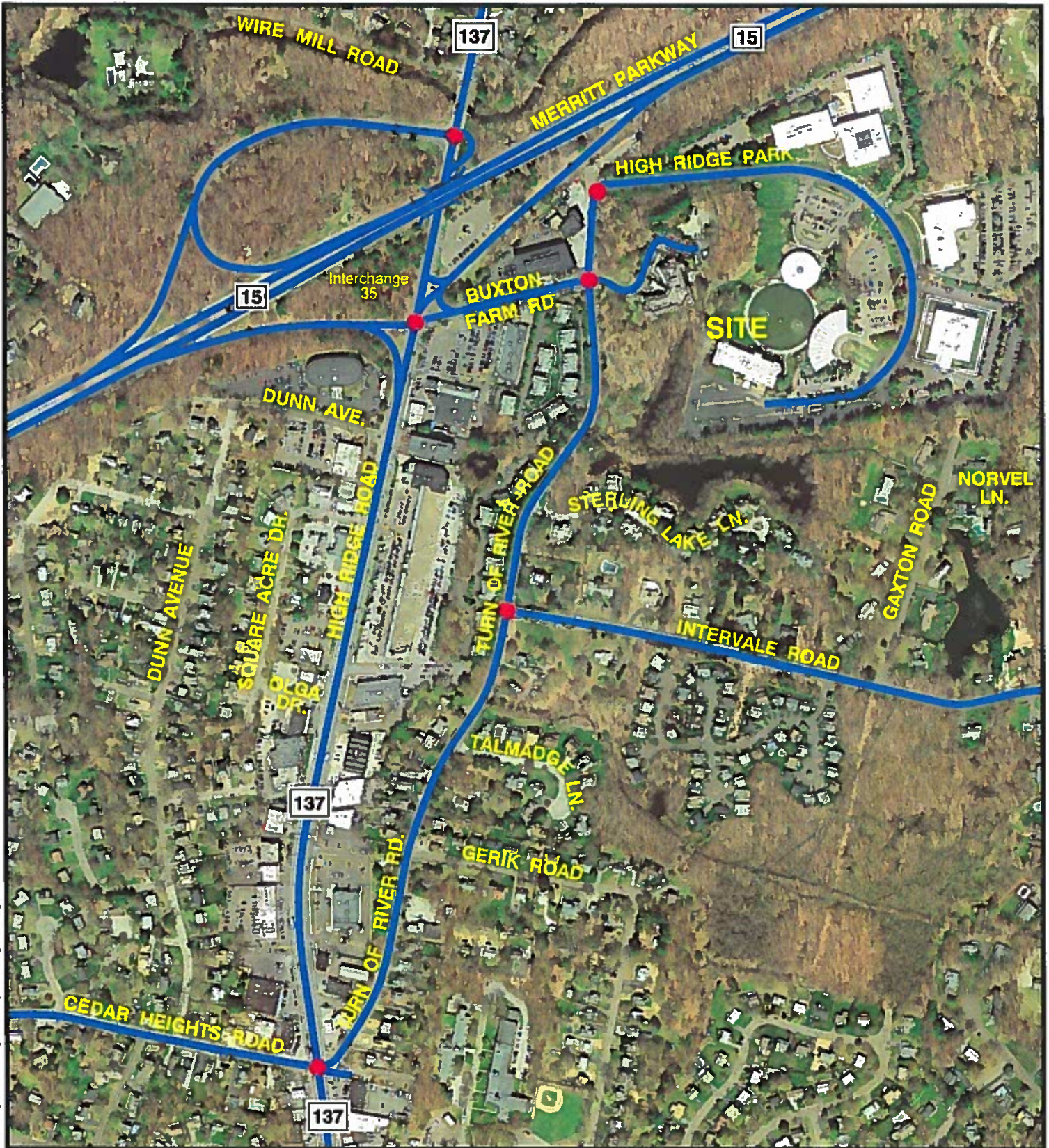
To complete this Traffic Study, it was necessary to collect baseline traffic volumes at key intersections near the subject property during the weekday morning, weekday afternoon and Saturday midday peak hours. The following intersections were included in the Study Area:

- High Ridge Road (State Route 137) at Merritt Parkway (State Route 15) Southbound Ramps (Signalized);
- High Ridge Road (State Route 137) at Merritt Parkway (State Route 15) Northbound Ramps/Buxton Farm Road (Signalized);
- Turn of River Road at Intervale Road/Access Drive;
- Turn of River Road at Buxton Farm Road/Assisted Living Access Drive;
- Turn of River Road at High Ridge Park; and,
- High Ridge Road (State Route 137) at Turn of River Road and Cedar Heights Road (Signalized).

Field surveys were conducted at the three Study Area unsignalized intersections along Turn of River Road on Thursday, January 26, 2017 and at the Interchange 35 intersections on Thursday, March 9, 2017 during the following time periods:

- Weekday morning – 7:00 to 9:00 A.M.; and,
- Weekday afternoon – 4:00 to 6:00 P.M.





#### LEGEND

- Study Area Intersections
- Key Roadways

#### SITE LOCATION MAP

#### PROPOSED NEW LIFETIME FITNESS BUILDING High Ridge Park - Stamford, CT

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RYE, NEW YORK  
FAIRFIELD, CONNECTICUT



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6/9/17

Scale in Feet  
500 400 300 200 100 0 500



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LEGEND

- |                      |                           |
|----------------------|---------------------------|
| → Traffic Lane       | Bus Stop                  |
| Traffic Light        | Pedestrian Crosswalk      |
| Stop Sign            | Sidewalk                  |
| Yield Sign           | No Parking                |
| NTOR No Right on Red | Do Not Block Intersection |

CURRENT STREET SYSTEM CHARACTERISTICS

<p><b>PROPOSED NEW LIFETIME FITNESS BUILDING High Ridge Park - Stamford, CT</b></p>	
<p>FREDERICK P. CLARK ASSOCIATES, INC. PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT RYE, NEW YORK FAIRFIELD, CONNECTICUT</p>	<p><b>2</b> 6/9/17</p>

Scale In Feet  
400 300 200 100 0 400



For the Saturday midday condition, field surveys were conducted at the all of the Study Area intersections, except the High Ridge Road (State Route 137) at Turn of River Road and Cedar Heights Road intersection, on Saturday, January 28, 2017 during the following time period:

- Saturday Midday – 10:00 A.M. to 2:00 P.M.

Traffic volumes for the intersection of High Ridge Road (State Route 137) at Turn of River Road and Cedar Heights Road were derived from a Traffic Study prepared by this office for all three time periods. The traffic volumes were obtained for the weekday morning, weekday afternoon and Saturday midday peak hours in November 2016. Based on the results of the field surveys the following peak hour volumes were identified:

- Weekday morning – 7:45 to 8:45 A.M.;
- Weekday afternoon – 5:00 to 6:00 P.M.; and,
- Saturday Midday – 12:45 to 1:45 P.M.

Merritt Parkway Southbound Ramps, west of High Ridge Road, had a two-way volume of 1,840, 1,217 and 838 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. North of the High Ridge Road/Merritt Parkway Southbound Ramps, High Ridge Road had a recorded two-way volume of 2,364, 2,042 and 1,371 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. South of the High Ridge Road/Merritt Parkway Southbound Ramps, this roadway had a recorded two-way volume of 3,118, 2,777 and 1,809 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively.

West of High Ridge Road/Merritt Parkway Northbound Off-Ramp had a one-way volume of 684, 694 and 391 vehicles during the same three peak hours noted above. High Ridge Road/Merritt Parkway Northbound On-Ramp had a one-way volume of 765, 986 and 597 vehicles during the weekday morning and weekday afternoon peak hours, respectively. East of High Ridge Road, Buxton

Farm Road had a recorded two-way volume of 1,339, 1,328 and 691 vehicles during the same three peak hours noted above. South of the Merritt Parkway Northbound Ramps/Buxton Farm Road, High Ridge Road had a recorded two-way volume of 2,866, 2,887 and 2,028 vehicles during the same three peak hours noted above.

Turn of River Road, south of Buxton Farm Road/Assisted Living Access Drive, had a two-way volume of 986, 895 and 467 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. North of Buxton Farm Road/Assisted Living Access Drive, Turn of River Road had a two-way volume of 482, 536 and 24 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. Buxton Farm Road, west of Turn of River Road had a two-way volume of 1,167, 1,101 and 475 vehicles during the same three peak hours noted above.

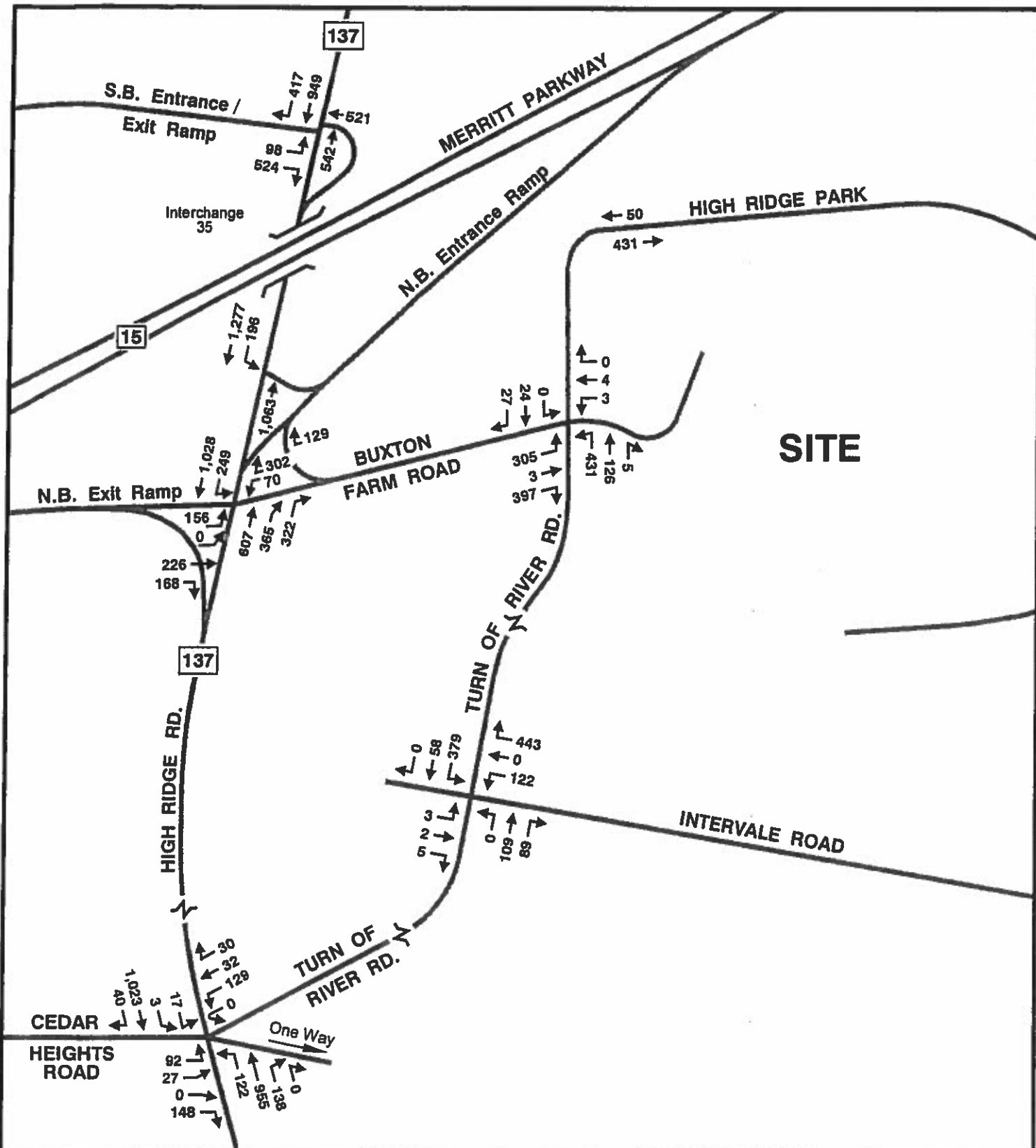
North of Intervale Road/Access Drive, Turn of River Road had a two-way volume of 992, 877 and 463 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. South of Intervale Road/Access Drive, Turn of River Road had a two-way volume of 383, 380 and 192 vehicles during the weekday morning, weekday afternoon and Saturday peak hours, respectively. Intervale Road, east of Turn of River Road had a two-way volume of 1,044, 848 and 519 vehicles during the same three peak hours noted above.

Figures 3 through 5 graphically illustrate the peak hour volumes, by turning movements, for the weekday morning, weekday afternoon and Saturday peak hours, respectively. Table 1 provides a more detailed summary of the recorded traffic volumes on area roadways near the subject property.

### **Accident Experience**

The latest available accident data was obtained from ConnDOT for a period beginning September 1, 2013 through December 31, 2014 and from the UCONN Crash Data Repository (a new format and process) for a period beginning January 1, 2015 through August 31, 2016 for State Route 137, Buxton Farm Road and Turn of River Road. For the intersection of High Ridge Road the Merritt Parkway Northbound Off-Ramp Right Turn there were a total of two accidents recorded during this





**SITE**

**NOTES:**

1. Manual turning movement counts were conducted by Frederick P. Clark Associates, Inc. on Thursday, January 26, 2017 and on Thursday, March 9, 2017 from 7:00 A.M. to 9:00 A.M.
2. Turning movement counts from the intersection of S.R. 137 at Turn of River Road are from a Traffic Study conducted by Frederick P. Clark Associates, Inc.

**2017 EXISTING TRAFFIC VOLUMES  
WEEKDAY MORNING PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

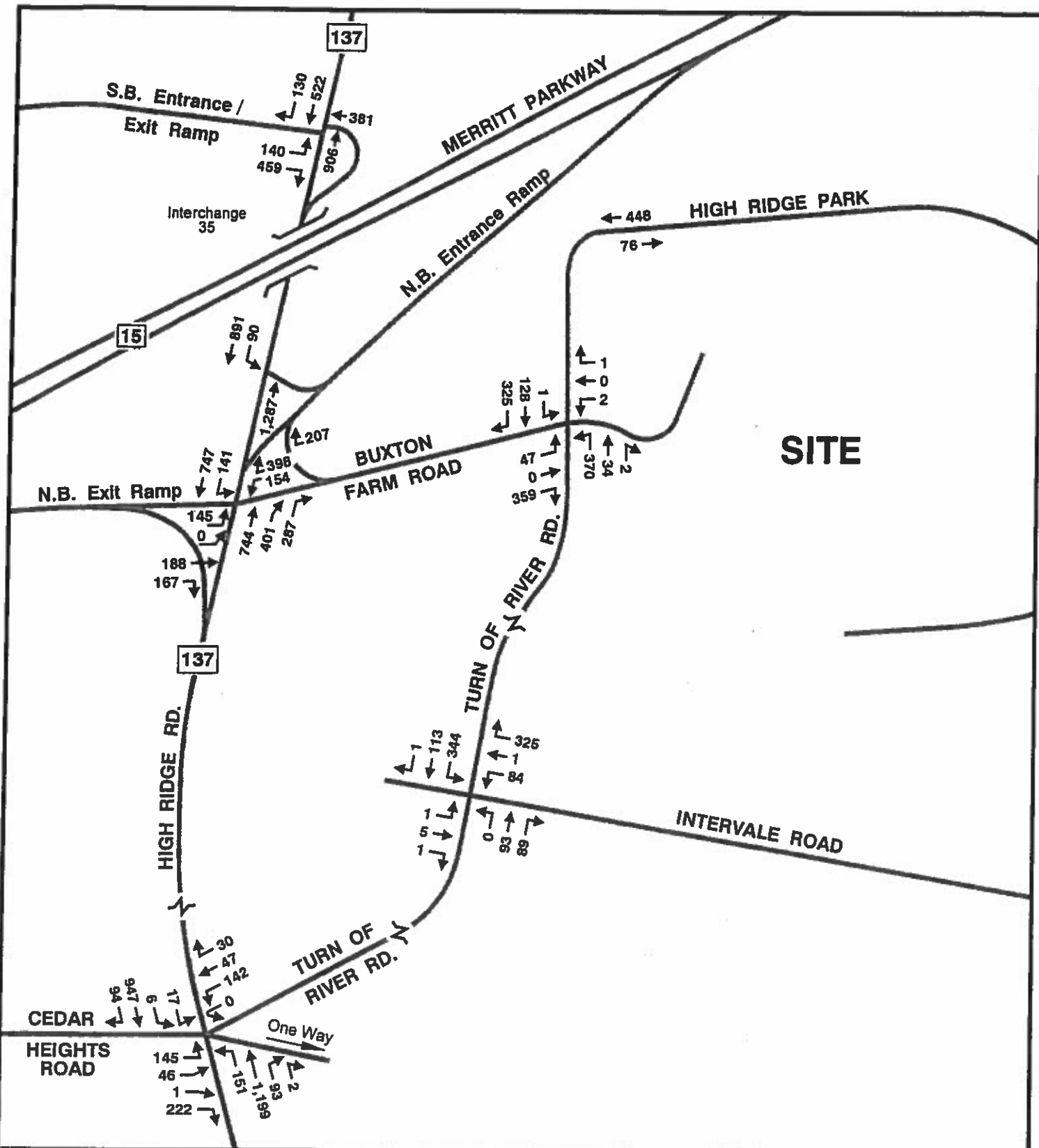


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**3**

Not to Scale

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**NOTES:**

1. Manual turning movement counts were conducted by Frederick P. Clark Associates, Inc. on Thursday, January 26, 2017 and on Thursday, March 9, 2017 from 4:00 P.M. to 6:00 P.M.
2. Turning movement counts from the intersection of S.R. 137 at Turn of River Road are from a Traffic Study conducted by Frederick P. Clark Associates, Inc.

**2017 EXISTING TRAFFIC VOLUMES  
WEEKDAY AFTERNOON PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

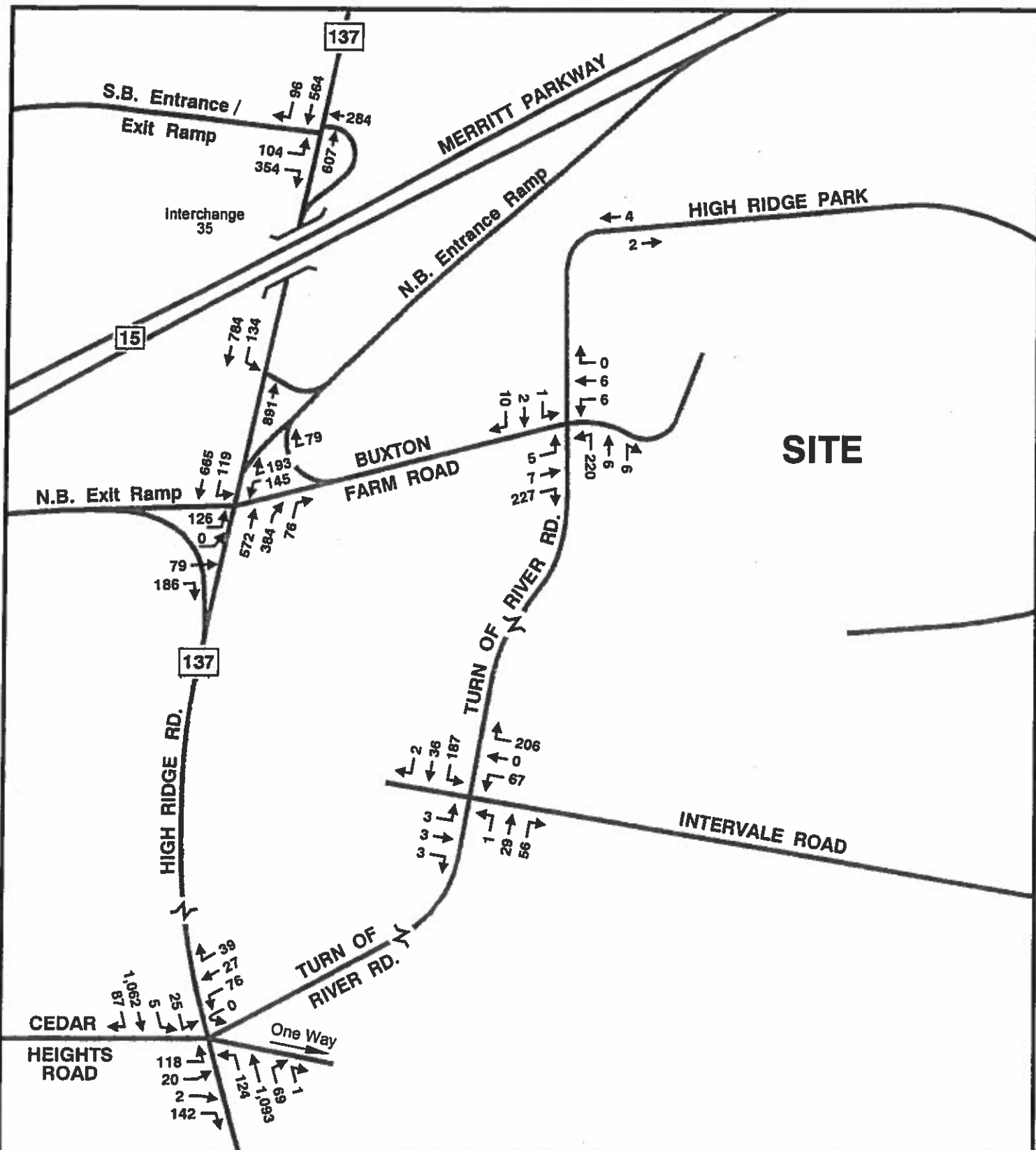
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**4**

6/9/17



**NOTES:**

1. Manual turning movement counts conducted by Frederick P. Clark Associates, Inc. on Saturday, January 28, 2017 from 10:00 A.M. to 2:00 P.M.
2. Turning movement counts from the intersection of S.R. 137 at Turn of River Road are from a Traffic Study conducted by Frederick P. Clark Associates, Inc.

**2017 EXISTING TRAFFIC VOLUMES  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

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**5**

6/9/17

Table 1  
2017 TRAFFIC VOLUMES – PEAK HOURS  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

LOCATION	VEHICLES		
	Weekday Morning	Weekday Afternoon	Saturday Midday
State Route 15 (Merritt Parkway) Southbound Ramps, West of State Route 137 (High Ridge Road)	1,840	1,217	838
State Route 15 (Merritt Parkway) Southbound On-Ramp, East of State Route 137 (High Ridge Road)	553	463	284
State Route 137 (High Ridge Road), North of State Route 15 (Merritt Parkway) Southbound Ramps	2,364	2,042	1,371
State Route 137 (High Ridge Road), South of State Route 15 (Merritt Parkway) Southbound Ramps	3,118	2,777	1,809
State Route 15 (Merritt Parkway) Northbound Off-Ramp, West of State Route 137 (High Ridge Road)	684	694	391
State Route 15 (Merritt Parkway) Northbound On-Ramp, East of State Route 137 (High Ridge Road)	765	986	597
Buxton Farm Road, East of State Route 137 (High Ridge Road)	1,339	1,328	691
State Route 137 (High Ridge Road), North of State Route 15 (Merritt Parkway) Northbound Ramps/Buxton Farm Road	3,118	2,777	1,809
State Route 137 (High Ridge Road), South of State Route 15 (Merritt Parkway) Northbound Ramps/Buxton Farm Road	2,866	2,887	2,028
Assisted Living Access Drive, East of Turn of River Road	15	6	26
Buxton Farm Road, West of Turn of River Road	1,167	1,101	475
Turn of River Road, North of Buxton Farm Road/Assisted Living Access Drive	482	536	24
Turn of River Road, South of Buxton Farm Road/Assisted Living Access Drive	986	895	467
Turn of River Road, North of Intervale Road/Access Drive	992	877	463
Turn of River Road, South of Intervale Road/Access Drive	383	380	192
Intervale Road, East of Turn of River Road	1,044	848	519
Access Drive, West of Turn of River Road	10	9	12
State Route 137 (High Ridge Road), North of Cedar Heights Road/Turn of River Road	2,160	2,438	2,429
State Route 137 (High Ridge Road), South of Cedar Heights Road/Turn of River Road	2,515	2,756	2,567
Turn of River Road, East of State Route 137 (High Ridge Road)	373	375	256

Cont'd Table 1

LOCATION	VEHICLES		
	Weekday Morning	Weekday Afternoon	Saturday Midday
Cedar Heights Road, West of State Route 137 (High Ridge Road)	461	706	520
Turn of River Road at High Ridge Park	481	524	6

Source:

- 1) Manual turning movement counts were conducted by Frederick P. Clark Associates, Inc. on Thursday, January 26, 2017, Thursday, March 9, 2017 and Saturday, January 28, 2017 for all intersections except High Ridge Road (State Route 137) at Turn of River Road and Cedar Heights Road.
- 2) High Ridge Road (State Route 137) at Turn of River Road and Cedar Heights Road volumes were from a Traffic Study prepared by this office.

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three-year period. Data indicates that each of the accidents were limited to property damage. The collision types involved a rear-end and an angle collision. The contributing factors were following too closely and failure to grant right-of-way. It was found that both of the accidents occurred during dark-lit conditions and on dry road conditions.

For the section of High Ridge Road between the Merritt Parkway Northbound Off-Ramp Right Turn and Merritt Parkway Northbound Ramps/Buxton Farm Road, there were a total of 4 accidents recorded during this three-year period. Data indicates that 75 percent of the accidents were limited to property damage and 25 percent included injuries. The collision types were 75 percent involving a rear-end collision and 25 percent involving turning intersecting path. The contributing factors were 75 percent for following too closely and 25 percent for failure to grant right-of-way. It was found that 75 percent of the accidents occurred during daylight hours and all of the accidents occurred on dry road conditions.

At the intersection of High Ridge Road at Merritt Parkway Northbound Ramps/Buxton Farm Road, there were a total of 33 accidents recorded during this three-year period. Data indicates that 79 percent of the accidents were limited to property damage and 21 percent included injuries. The collision types were 43 percent involving a rear-end collision, 27 percent involving an angle collision, 21 percent for sideswipe in the same direction, 6 percent involving a collision with a fixed object and 3 percent for turning in the opposite direction. The contributing factors were 43 percent for following too closely, 27 percent for failure to grant right-of-way, 9 percent involved an improper lane change, 6 percent for failure to stay in lane and 3 percent for no contributing action, other contributing action, an improper passing maneuver, an improper turning maneuver and the driver lost control. It was found that 70 percent of the accidents occurred during daylight hours and 79 percent occurred on dry road conditions.

High Ridge Road, between the Merritt Parkway Northbound Ramps/Buxton Farm Road and Merritt Parkway Northbound On-Ramp from Southbound Left Turn, had a total of 5 accidents recorded during this three-year period. Data indicates that all of the accidents were limited to only property

damage. The collision types were 80 percent involving a rear-end collision and 20 percent involved a sideswipe in the same direction. The contributing factors were 80 percent for following too closely and 20 percent were unknown. It was found that 60 percent of the accidents occurred during daylight hours and all of the accidents occurred on dry road conditions.

Data indicates that at the intersection of High Ridge Road at the Merritt Parkway Northbound On-Ramp from Southbound Left Turn, there was a total of one accident recorded during this three-year period. It indicates that the accident involved injuries, with the collision type being other. The contributing factor was an improper turning maneuver. It was found that the accident occurred during daylight hours and on wet road conditions.

In the section of High Ridge Road between the Merritt Parkway Northbound On-Ramp from Southbound Left Turn and Merritt Parkway Southbound On-Ramp Jug Handle, there were a total of 10 accidents recorded during this three-year period. Data indicates that all of the accidents were limited to property damage. The collision types were 30 percent involving rear-end and angle collisions, 20 percent involving sideswipe in the same direction and 10 percent for turning in the opposite direction and a collision with a fixed object. The contributing factors were 30 percent for failure to grant right-of-way, 20 percent for following too closely and 10 percent for failure to stay in lane, no contributing action, an improper passing maneuver, an improper lane change and ran off roadway. It was found that 80 percent of the accidents occurred during daylight hours and 90 percent of the accidents occurred on dry road conditions.

For the intersection of High Ridge Road at the Merritt Parkway Southbound On-Ramp Jug Handle, there was a total of one accident recorded during this three-year period. Data indicates that the accident involved injuries. The collision type was a rear-end collision, with a contributing factor of following too closely. It was found that the accident occurred during daylight hours and on wet road conditions. For the section of High Ridge Road, between the Merritt Parkway Southbound On-Ramp Jug Handle and Merritt Parkway Southbound On-Ramp, there were no recorded accidents.

At the intersection of High Ridge Road at the Merritt Parkway Southbound On-Ramp, there were a total of 12 accidents recorded during this three-year period. Data indicates that 83 percent of the accidents were limited to property damage and 17 percent included injuries. The collision types were 42 percent involving a rear-end collision, 17 percent involving an angle collision and collision with a moving object and 8 percent for turning intersecting path, sideswipe in the same direction and other collision. The contributing factors were 34 percent for following too closely, 26 percent for no contributing action and 8 percent for failure to grant right-of-way, other contributing action, an improper turning maneuver, violating a traffic control and improper backing. It was found that 50 percent of the accidents occurred during daylight hours and 83 percent occurred on dry road conditions. Table 2 provides a more detailed summary of the accident data.

For the section of Buxton Farm Road, between High Ridge Road and Turn of River Road, there were a total of three accidents recorded during this three-year period. Data indicates that all accidents were limited to property damage. The collision types were 34 percent involving a rear-end collision and 33 percent involved turning intersecting path and an angle collision. Contributing factors were 67 percent involving failure to grant right-of-way and 33 percent for following too closely. It was found that all of the accidents occurred during daylight hours, with 67 percent occurred on dry road conditions.

At the intersection of Buxton Farm Road at Turn of River Road, there was a total of one accident recorded during this three-year period. Data indicates that the accident involved injuries. The collision type was an angle collision. The contributing factor was failure to grant right-of-way. It was found that the accident occurred during daylight hours and on wet road conditions.

On the section of Turn of River Road, between Buxton Farm Road and Intervale Road, there were a total of two accidents recorded during this three-year period. Data indicates that the accidents involved both property damage and injuries. The collision types were with a fixed object. The contributing factors were driver lost control and ran off roadway. It was found that all of the accidents occurred during daylight hours and on dry road conditions.

Table 2

[illegible]

Table 2 Cont'd

ACCIDENT CHARACTERISTICS	STATE ROUTE 137											
	At State Route 15 Northbound Off-Ramp Right Turn		Between State Route 15 Northbound Off-Ramp Right Turn and State Route 15 Northbound Ramps/Buxton Farm Road		At State Route 15 Northbound Ramps/Buxton Farm Road		Between State Route 15 Northbound Ramps/Buxton Farm Road and State Route 15 Northbound Off-Ramp Right Turn		At State Route 15 Northbound Off-Ramp Right Turn		Between State Route 15 Northbound Off-Ramp Right Turn and State Route 15 Northbound Ramps/Buxton Farm Road	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Light Condition	0	0	3	75	23	70	3	60	1	100	8	80
• Daylight	2	100	1	25	8	24	2	40	0	0	1	10
• Dark-Lit	0	0	0	0	0	0	0	0	0	0	0	0
• Dark-Not Lit	0	0	0	0	0	0	0	0	0	0	0	0
• Dark-Unknown Lighting	0	0	0	0	0	0	0	0	0	0	0	0
• Dawn	0	0	0	0	1	3	0	0	0	0	0	0
• Unknown	0	0	0	0	1	3	0	0	0	0	0	0
Surface Condition	2	100	4	100	26	79	5	100	0	0	9	90
• Dry	0	0	0	0	5	15	0	0	1	100	1	10
• Wet	0	0	0	0	1	3	0	0	0	0	0	0
• Ice/Frost	0	0	0	0	1	3	0	0	0	0	0	0
• Unknown	0	0	0	0	1	3	0	0	0	0	0	0
Weather Conditions	0	0	1	25	7	21	0	0	0	0	1	10
• No Adverse	2	100	3	75	18	55	4	80	0	0	7	70
• Clear	0	0	0	0	2	6	0	0	0	0	0	0
• Cloudy	0	0	0	0	5	15	0	0	1	100	2	20
• Rain	0	0	0	0	0	0	1	20	0	0	0	0
• Fog/Smoke/Smog	0	0	0	0	0	0	0	0	0	0	0	0
• Unknown	0	0	0	0	1	3	0	0	0	0	0	0
Source:												
1) Connecticut Department of Transportation from January 1, 2014 to December 31, 2014.												
2) Connecticut Crash Data Repository from January 1, 2015 to December 31, 2016.												
Notes:												
1) January 1, 2014 to December 31, 2016 is the latest three full years of accident data available.												
2) The 2015 and 2016 accident data follows the new Connecticut Uniform Police Report. The collision type was determined using the manner of crash/collision impact and the accident diagram. For weather conditions, no adverse was replaced with clear.												

Source:

- 1) Connecticut Department of Transportation from January 1, 2014 to December 31, 2014.
- 2) Connecticut Crash Data Repository from January 1, 2015 to December 31, 2016.

Notes:

- 1) January 1, 2014 to December 31, 2016 is the latest three full years of accident data available.
- 2) The 2015 and 2016 accident data follows the new Connecticut Uniform Police Report. The collision type was determined using the manner of crash/collision impact and the accident diagram. For weather conditions, no adverse was replaced with clear.

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At the intersection of Turn of River Road at Intervale Road, there were a total of two accidents recorded during this three-year period. Data indicates that the accidents involved both property damage and injuries. The collision types involved a rear-end and an angle collision. The contributing factors were no contributing action and ran STOP sign. It was found that 50 percent of the accidents occurred during daylight hours and all of the accidents occurred on wet road conditions. Table 3 provides a more detailed summary of the accident data. The accident data obtained from both ConnDOT and the Connecticut Crash Data Repository is included in the Appendix of this report.

Table 3  
ACCIDENT EXPERIENCE SUMMARY – BUXTON FARM ROAD/TURN OF RIVER ROAD  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

ACCIDENT CHARACTERISTICS	BUXTON FARM ROAD				TURN OF RIVER ROAD			
	Between State Route 137 and Turn of River Road		At Turn of River Road		Between Buxton Farm Road and Intervale Road		At Intervale Road	
	Total	%	Total	%	Total	%	Total	%
<b>Year</b>								
▪ 2014	2	67	1	100	1	50	0	0
▪ 2015	1	33	0	0	0	0	2	100
▪ 2016	0	0	0	0	1	50	0	0
▪ Total	3	100	1	100	2	100	2	100
<b>Accident Severity</b>								
▪ Property Damage	3	100	0	0	1	50	1	50
▪ Injury	0	0	1	100	1	50	1	50
<b>Collision Type</b>								
▪ Rear-end	1	34	0	0	0	0	1	50
▪ Turning-Intersect Path	1	33	0	0	0	0	0	0
▪ Angle	1	33	1	100	0	0	1	50
▪ Fixed Object	0	0	0	0	2	100	0	0
<b>Contributing Factor</b>								
▪ Following Too Closely	1	33	0	0	0	0	0	0
▪ Failure to Grant ROW	2	67	1	100	0	0	0	0
▪ No Contributing Action	0	0	0	0	0	0	1	50
▪ Ran STOP Sign	0	0	0	0	0	0	1	50
▪ Driver Lost Control	0	0	0	0	1	50	0	0
▪ Ran Off Roadway	0	0	0	0	1	50	0	0
<b>Light Condition</b>								
▪ Daylight	3	100	1	100	2	100	1	50
▪ Dusk	0	0	0	0	0	0	1	50
<b>Surface Condition</b>								
▪ Dry	2	67	0	0	2	100	0	0
▪ Wet	1	33	1	100	0	0	2	100
<b>Weather Conditions</b>								
▪ No Adverse	2	67	0	0	1	50	1	50
▪ Clear	0	0	0	0	1	50	0	0
▪ Rain	1	33	1	100	0	0	1	50

Source:

- 1) Connecticut Department of Transportation from January 1, 2014 to December 31, 2014.
- 2) Connecticut Crash Data Repository from January 1, 2015 to December 31, 2016.

Notes:

- 1) January 1, 2014 to December 31, 2016 is the latest three full years of accident data available.
- 2) The 2015 and 2016 accident data follows the new Connecticut Uniform Police Report. The collision type was determined using the manner of crash/collision impact and the accident diagram. For weather conditions, no adverse was replaced with clear.

## **FUTURE TRAFFIC IMPACTS**

This section of the report provides a description of the future no-build traffic volumes for a 2019 condition, site-traffic generation, site traffic assignment and future build traffic volumes.

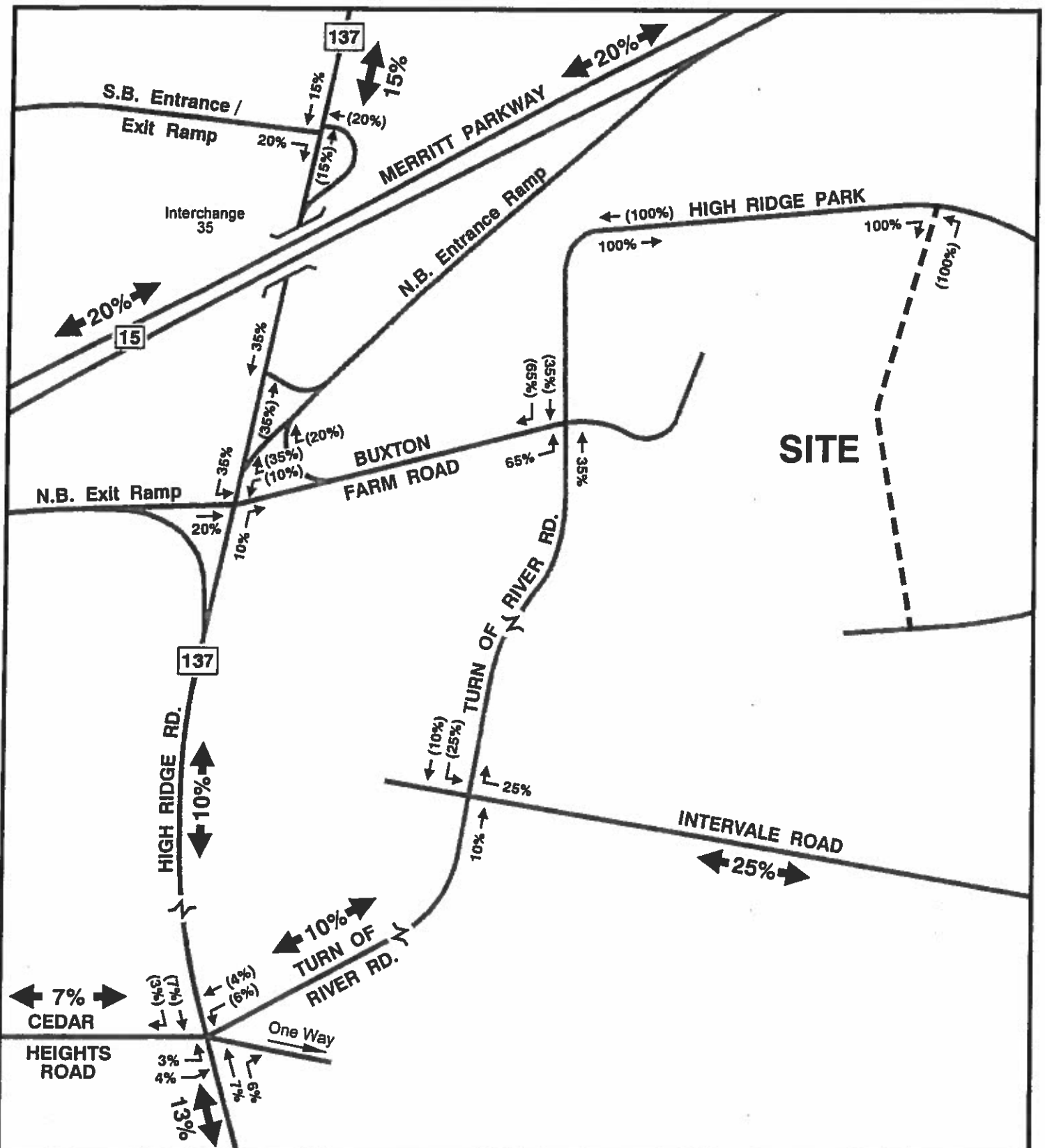
### **No-Build Traffic Volumes**

Future no-build traffic volumes, without the proposed development, assume that the currently vacant Building 3 will be reoccupied with medical uses (because current market trends indicate that this would be the most likely use group). This traffic generation is based on trip generation rates provided by ITE. It is estimated that a total of 200, 299 and 305 vehicle trip ends will be added to the study area intersections during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

Based on a review of current traffic patterns at Study Area intersections and guidance from ConnDOT, a distribution plan was developed for the re-occupancy of Building 3 with medical uses and the removal of office space. It was determined that 20 percent of the site traffic will arrive from and depart to the east and west (each way), respectively, on State Route 15, 25 percent arrive from and depart to the east on Intervale Road, 15 percent will arrive from and depart to the north on High Ridge Road, 13 percent will arrive from and depart to the south on High Ridge Road and 7 percent will arrive from and depart to the west on Cedar Heights Road.

Figure 6 graphically illustrates the patterns assumed and used for the reoccupancy of Building 3 with medical uses. Figures 7 through 9 illustrate the traffic generation and assignment for the reoccupancy of Building 3 with medical uses during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

The 2017 traffic volumes were expanded to reflect a 2019 traffic condition by applying a 0.6 percent per year growth rate, as per discussions with the ConnDOT Planning Division. Based on discussions with both the City of Stamford Planning Department and the ConnDOT Planning



#### SITE TRAFFIC

Enter 00%  
Exit (00%)

#### LEGEND

- ◄ 00% ► Directional Distribution
- Proposed Site Access Drives

#### NOTE:

Assume existing vacant office building reoccupied with medical land use.

#### NO-BUILD SITE TRAFFIC DISTRIBUTION

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

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PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT  
RYE, NEW YORK FAIRFIELD, CONNECTICUT

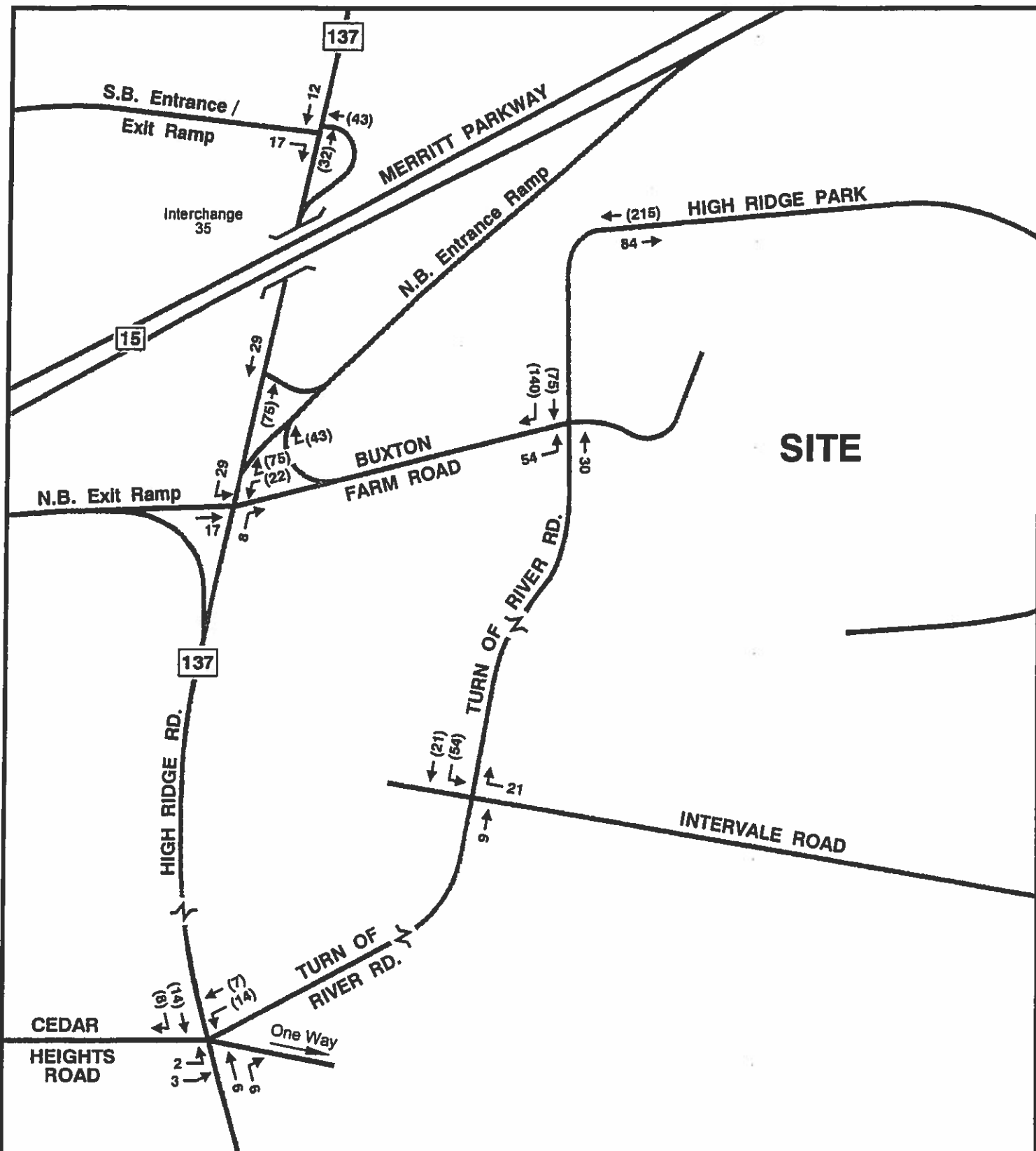
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LAND USE	SIZE	TRAFFIC DIRECTION	SITE TRAFFIC GENERATION
OFFICE BUILDING	83,888 Sq.Ft.	Enter	84
		Exit	(215)
		Total	299

**NOTE:**  
Assume the existing vacant office building to be reoccupied with medical land use.

# NO-BUILD TRAFFIC GENERATION & ASSIGNMENT WEEKDAY AFTERNOON PEAK HOUR

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

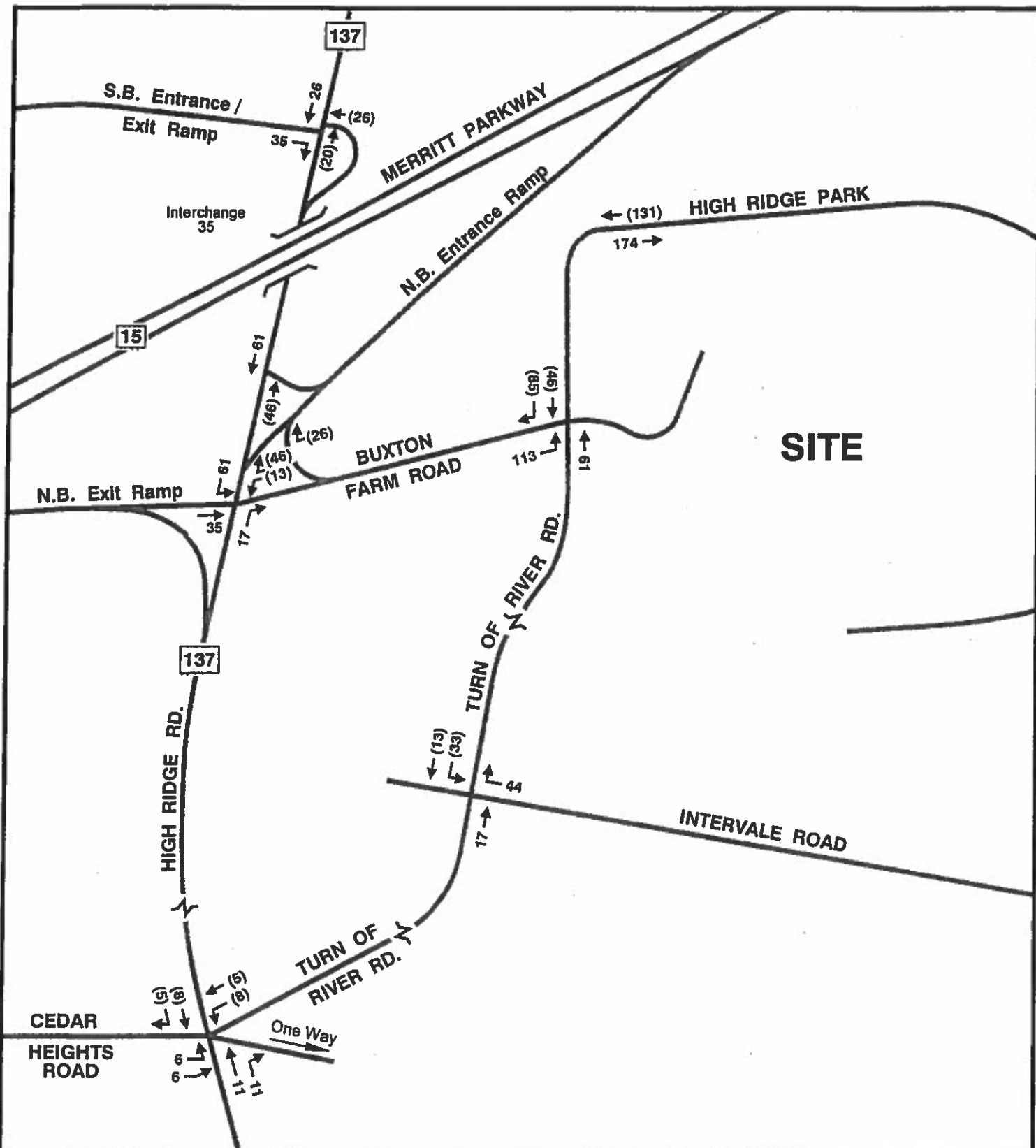
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LAND USE	SIZE	TRAFFIC DIRECTION	SITE TRAFFIC GENERATION
OFFICE BUILDING	83,888 Sq.Ft.	Enter	174
		Exit	(131)
		Total	305

**NOTE:**

Assume the existing vacant office building to be reoccupied with medical land use.

**NO-BUILD TRAFFIC GENERATION & ASSIGNMENT  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**



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Department, no other developments were identified for inclusion in this analysis. Figures 10 through 12 graphically illustrate the 2019 projected traffic volumes for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

The 2019 no-build traffic volumes were then determined by adding the traffic for the reoccupancy of Building 3 with medical uses to the 2019 projected traffic volumes. Figures 13 through 15 graphically illustrate the 2019 no-build traffic volumes for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

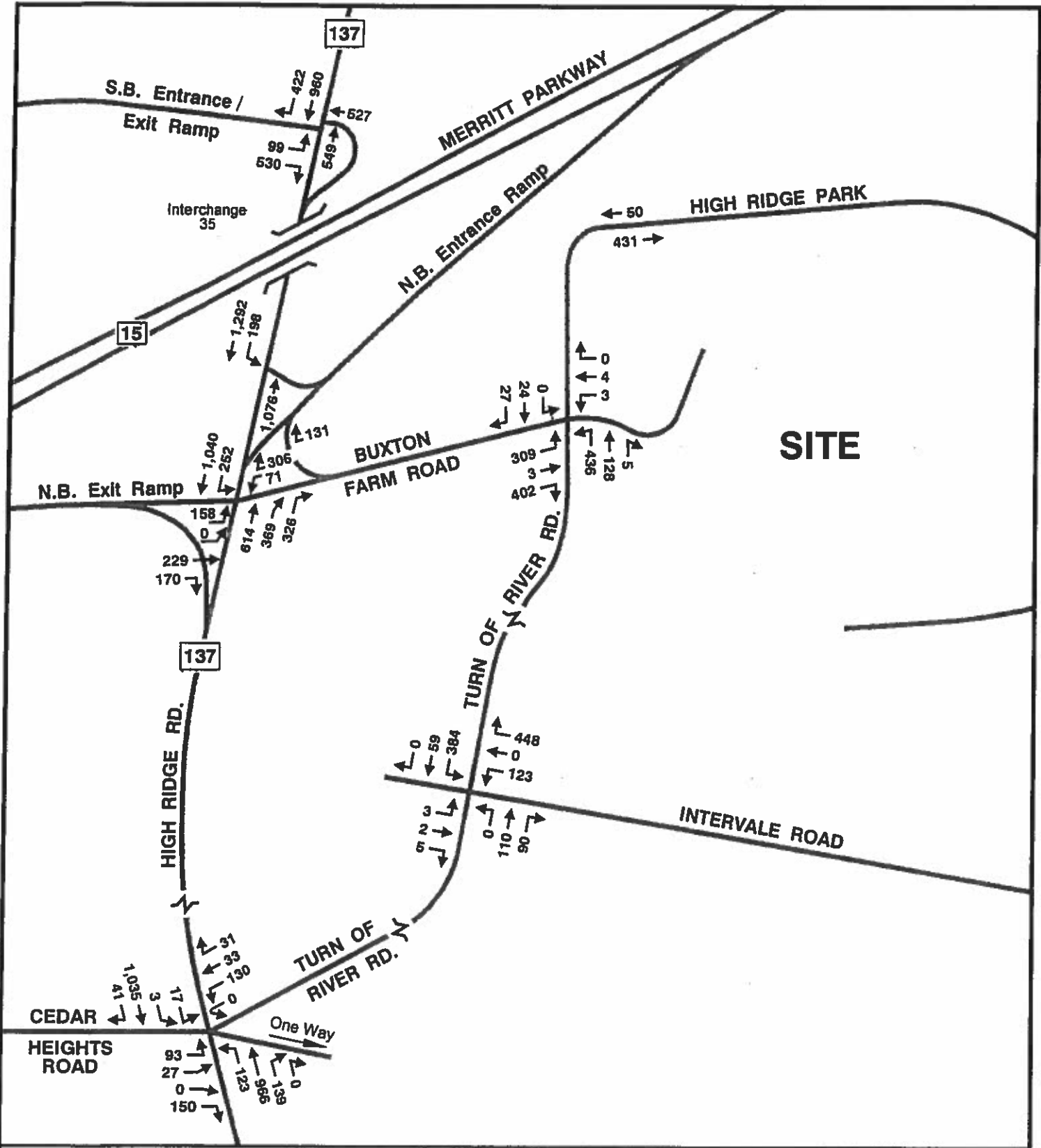
### **Site Traffic Generation**

This analysis assumes that the existing office Building 3 is re-occupied with a medical land use and then replaced with an 114,000 square-foot LifeTime Fitness Building and that approximately 6,128 square-feet of office space from the existing office park facility is converted to storage. It is anticipated that the proposed Fitness Center will generate a total of 161, 402 and 317 total trip ends of which 56, 141 and 0 are internal capture trips (as approved by ConnDOT) and a total of 105, 261 and 317 external vehicle trips during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The office space to be removed is anticipated to generate a total of 10, 10 and 3 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The internal trips are between the proposed LifeTime Fitness Building and the existing office park during the weekday morning and weekday afternoon peak hours of the adjacent street system.

The net change between Building 3, fully occupied with medical uses coupled with the removal of 6,128 square-foot office space from the existing office park, and the proposed 114,000 square-foot LifeTime Fitness Building is a reduction of 105 and 48 vehicle trip ends during the weekday morning and weekday afternoon peak hours, respectively. During the Saturday midday peak hour there would be a very modest increase of 9 vehicle trip ends. Table 4 provides a more detailed summary for the re-occupancy traffic, proposed site traffic generation and net difference during the peak hours.




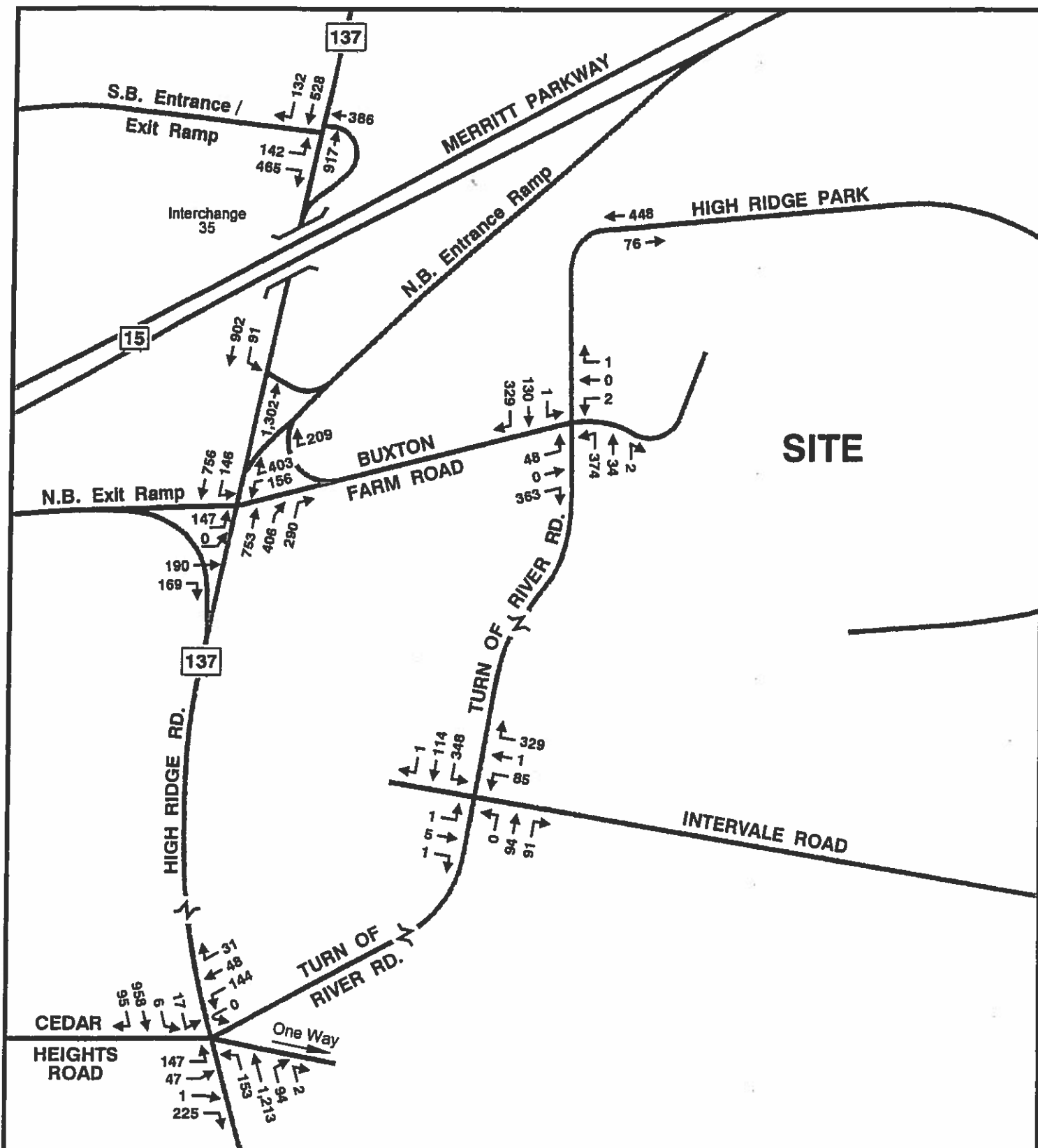
File: U:\033,400 New Lifetime Fitness Building, Stamford\June 2017\Autocad\FitnessFigures.dwg



**SITE**

**NOTE:**  
An annual growth rate of 0.6 percent was employed to the horizon year 2019, as per discussion with ConnDOT Planning.

<b>2019 PROJECTED TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR</b>	
<b>PROPOSED NEW LIFETIME FITNESS BUILDING High Ridge Park - Stamford, CT</b>	
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**NOTE:**

An annual growth rate of 0.6 percent was employed to the horizon year 2019, as per discussion with ConnDOT Planning.

**2019 PROJECTED TRAFFIC VOLUMES  
WEEKDAY AFTERNOON PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

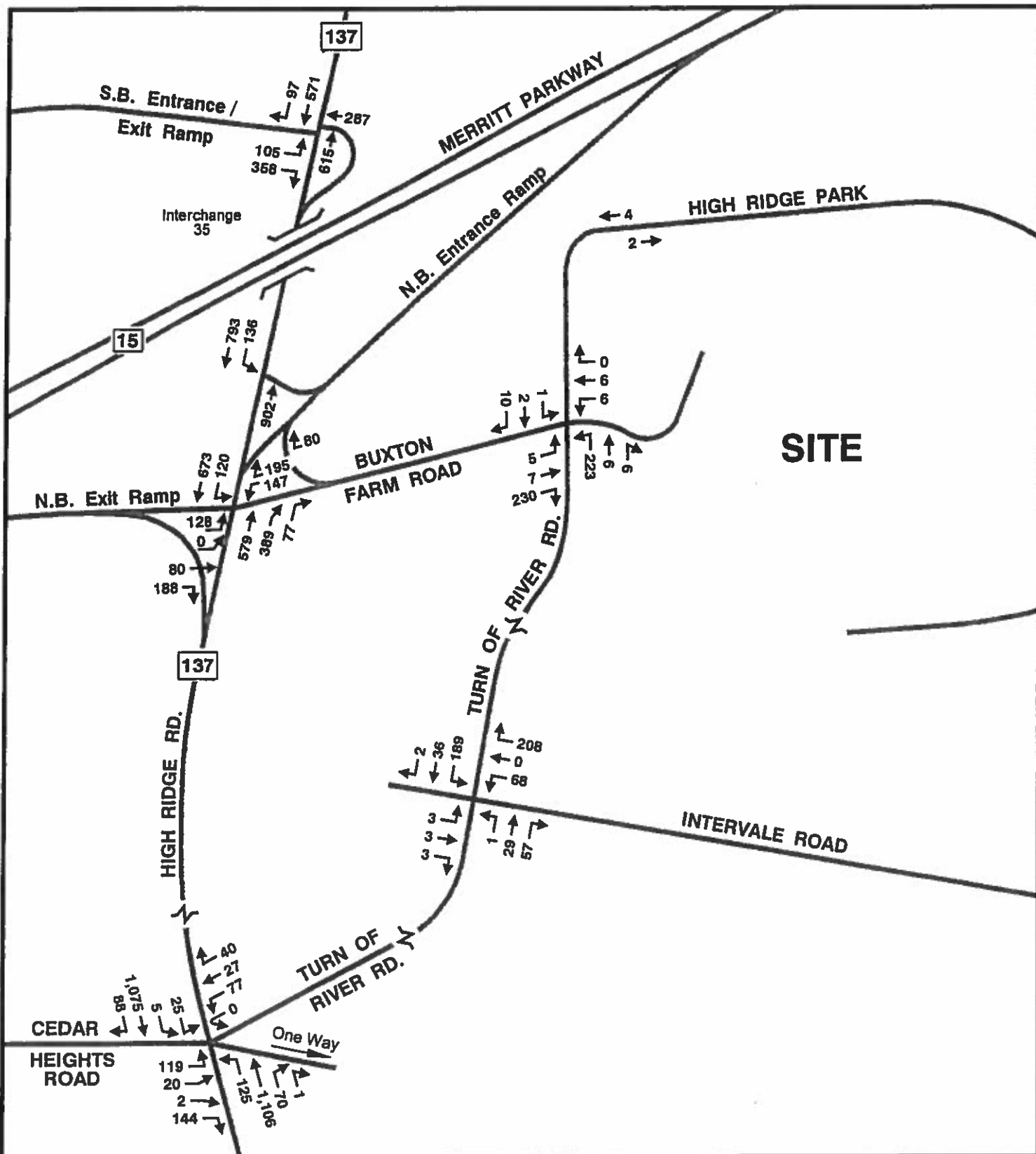


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**NOTE:**

An annual growth rate of 0.6 percent was employed to the horizon year 2019, as per discussion with ConnDOT Planning.

**2019 PROJECTED TRAFFIC VOLUMES  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

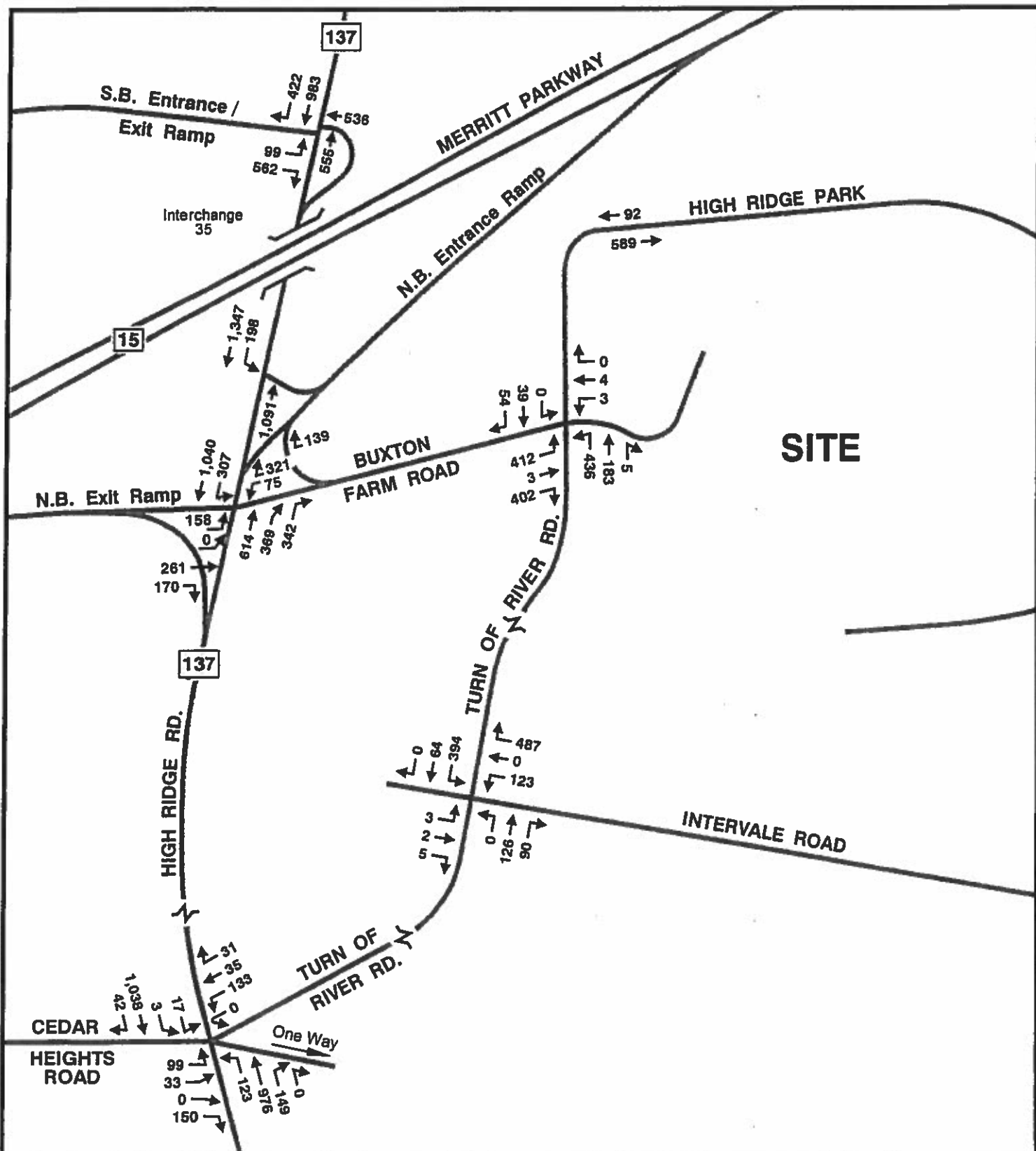


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**NOTE:**  
The No-Build Traffic Volumes include the No-Build Traffic Generation and the Projected Traffic Volumes.

## 2019 NO-BUILD TRAFFIC VOLUMES WEEKDAY MORNING PEAK HOUR

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

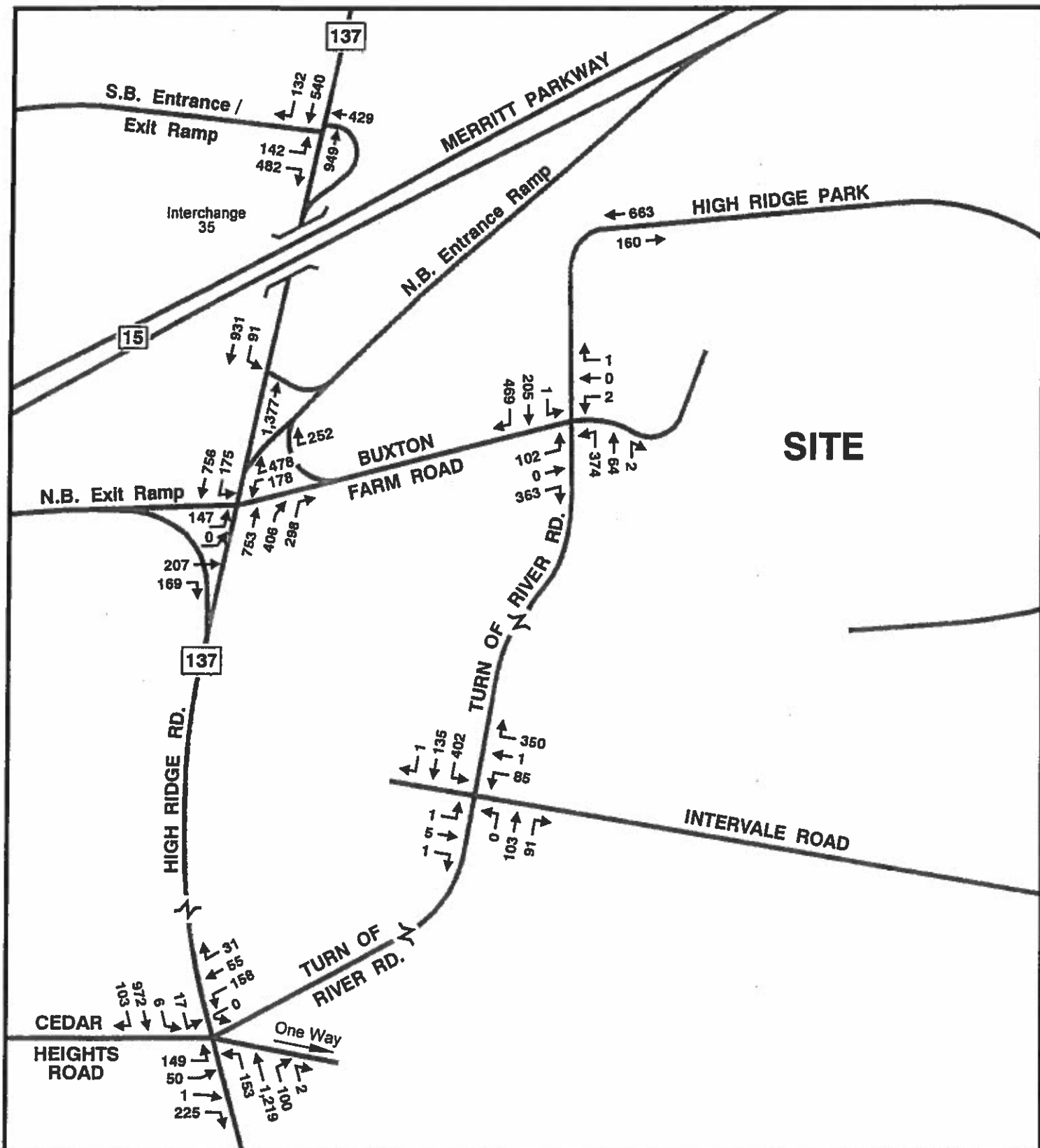
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**NOTE:**  
The No-Build Traffic Volumes include the No-Build Traffic Generation and the Projected Traffic Volumes.

**2019 NO-BUILD TRAFFIC VOLUMES  
WEEKDAY AFTERNOON PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

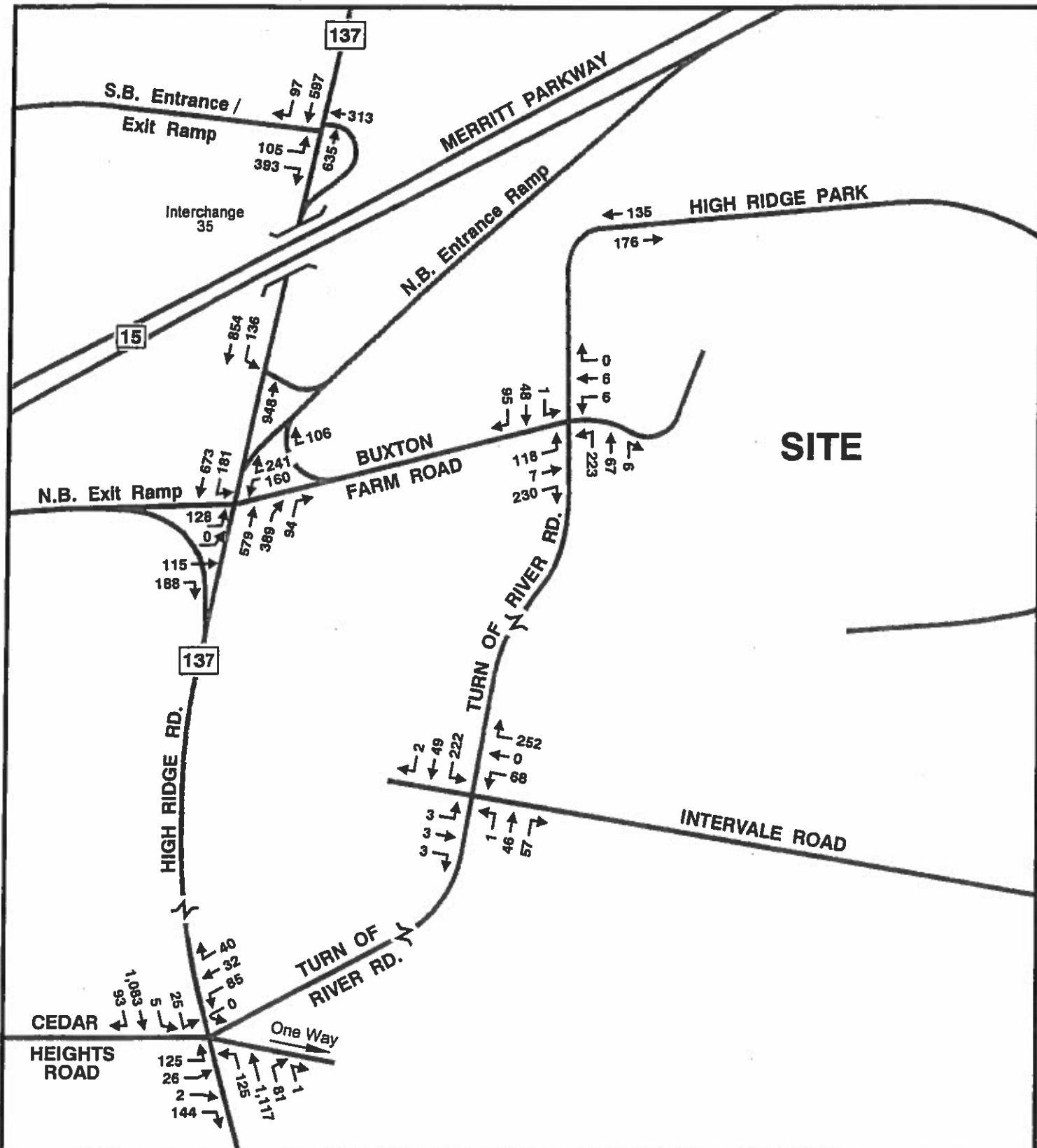


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**NOTE:**  
The No-Build Traffic Volumes include the No-Build Traffic Generation and the Projected Traffic Volumes.

**2019 NO-BUILD TRAFFIC VOLUMES  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**



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Table 4  
**SITE TRAFFIC GENERATION FORECAST – PEAK HOURS**  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

LAND USE	SIZE	TRAFFIC DIRECTION	SITE TRAFFIC GENERATION AND ADJUSTMENT											
			Total Trip Ends			Internal Capture (35%)						External Vehicle Trip Ends		
			Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday
1 – Assume Existing Office Building to be Occupied with Medical Land Use (ITE Code #720)	83,888 S.F.	Enter Exit Total	-158 -42 -200	-84 -215 -299	-174 -131 -305	-- -- --	-- -- --	-- -- --	-158 -42 -200	-84 -215 -299	-174 -131 -305			
2- General Office Space to be Removed (ITE Code #710)	6,128 S.F.	Enter Exit Total	-9 -1 -10	-2 -8 -10	-2 -1 -3	-- -- --	-- -- --	-- -- --	-9 -1 -10	-2 -8 -10	-2 -1 -3			
3- Total vehicle trip ends to be Removed from Study Area (1+2)	90,016 S.F.	Enter Exit Total	-167 -43 -210	-86 -223 -309	-176 -132 -308	-- -- --	-- -- --	-- -- --	-167 -43 -210	-86 -223 -309	-176 -132 -308			
4 – Proposed LifeTime Fitness Building (ITE Code #492)	114,000 S.F.	Enter Exit Total	81 80 161	229 173 402	143 174 317	28 28 56	80 61 141	0 0 0	53 52 105	149 112 261	143 174 317			
Net Difference	23,984 S.F.	Enter Exit Total	-86 37 -49	143 -50 93	-33 42 9	28 28 56	80 61 141	0 0 0	-114 9 -105	63 -111 -48	-33 42 9			

Source:

- 1) The Institute of Transportation Engineers (ITE), Trip Generation Manual 9<sup>th</sup> Edition, 2012 using Medical-Dental Office Building, Code #720 Average Rates, General Office, Code #710 and Health/Fitness Club, Code #492 Average Rates.

**Note:** Internal Capture: Based on a discussion with Connecticut Department of Transportation, Bureau of Policy and Planning, a 35 percent credit was employed to the total trip ends to account for members using the facility that work in the Office Park. No internal capture is taken for the Saturday midday peak hour.

## **Distribution and Assignment of Site-Generated Traffic**

Based on a review of current traffic patterns at the Study Area intersections, anticipated travel routes to the site and guidance from ConnDOT, a distribution plan was developed. As described above, the site access drives will be to the internal High Ridge Park driveway. It was determined that 20 percent of the site traffic will arrive from and depart to the east and west (each way), respectively, on State Route 15, 25 percent arrive from and depart to the east on Intervale Road, 15 percent will arrive from and depart to the north on High Ridge Road, 13 percent will arrive from and depart to the south on High Ridge Road and 7 percent will arrive from and depart to the west on Cedar Heights Road.

Figure 16 graphically illustrates the patterns assumed and used for the LifeTime Fitness Building traffic. Figures 17 through 19 illustrate the net difference in traffic generation and assignment between the reoccupied Building 3 with medical uses and LifeTime Fitness Building during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

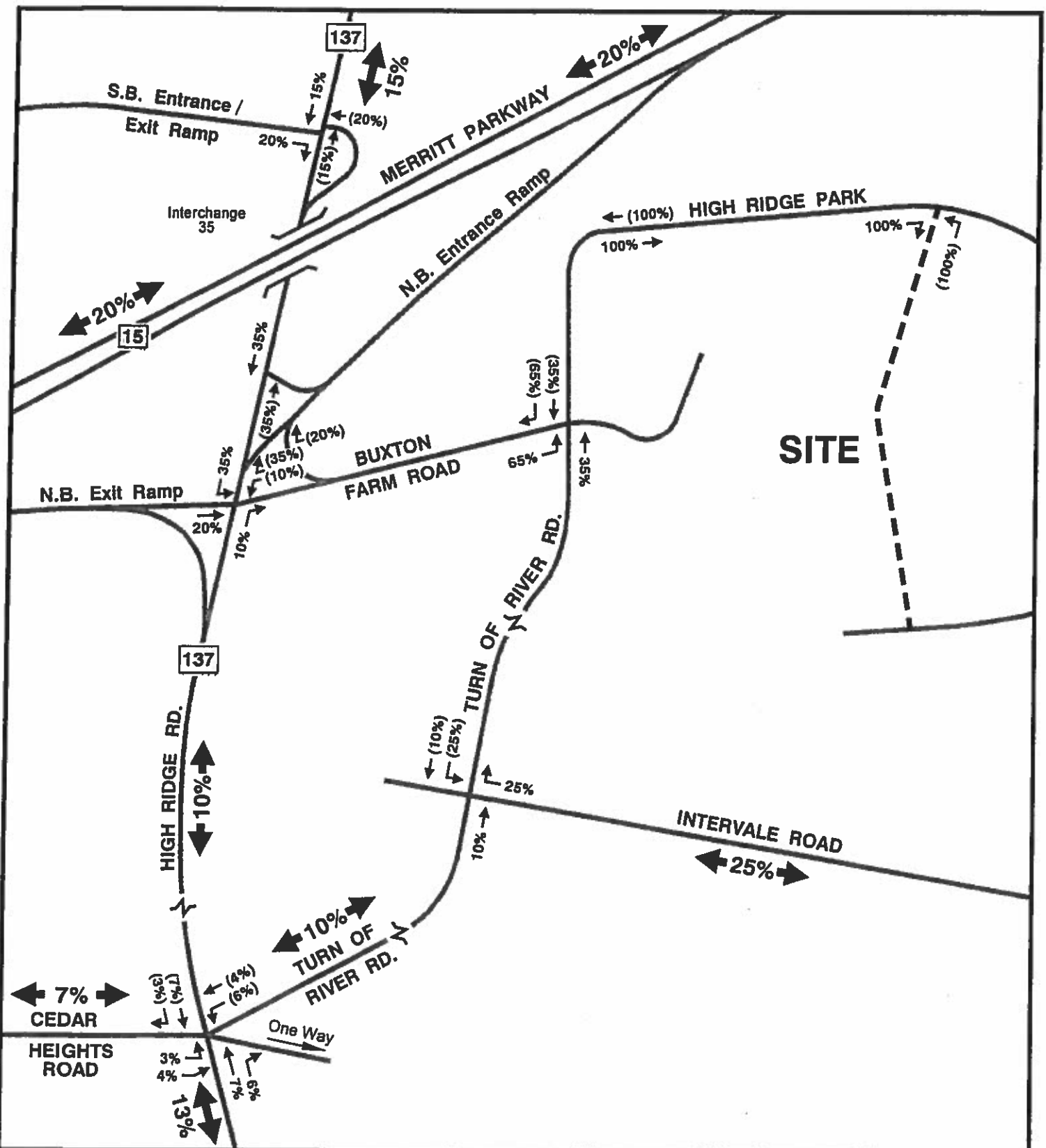
## **Build Traffic Volumes**

Build traffic volumes were developed based on adding the net difference in traffic generation and assignment between the reoccupied Building 3 with medical uses and LifeTime Fitness Building to the no-build traffic volumes described above for a 2019 design year. Figures 20 through 22 graphically illustrate the build traffic volumes for the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

## **Capacity Analysis Procedures**

Capacity analysis procedures are provided in the Appendix of this report. The analyses follow a SYNCHRO computer model and information provided by the Transportation Research Board (TRB) and the Highway Capacity Manual (HCM) published in 2010.





**SITE TRAFFIC - (LIFETIME FITNESS BUILDING)**  
Enter 00%  
Exit (00%)

**LEGEND**

- Directional Distribution**
- Proposed Site Access Drives**

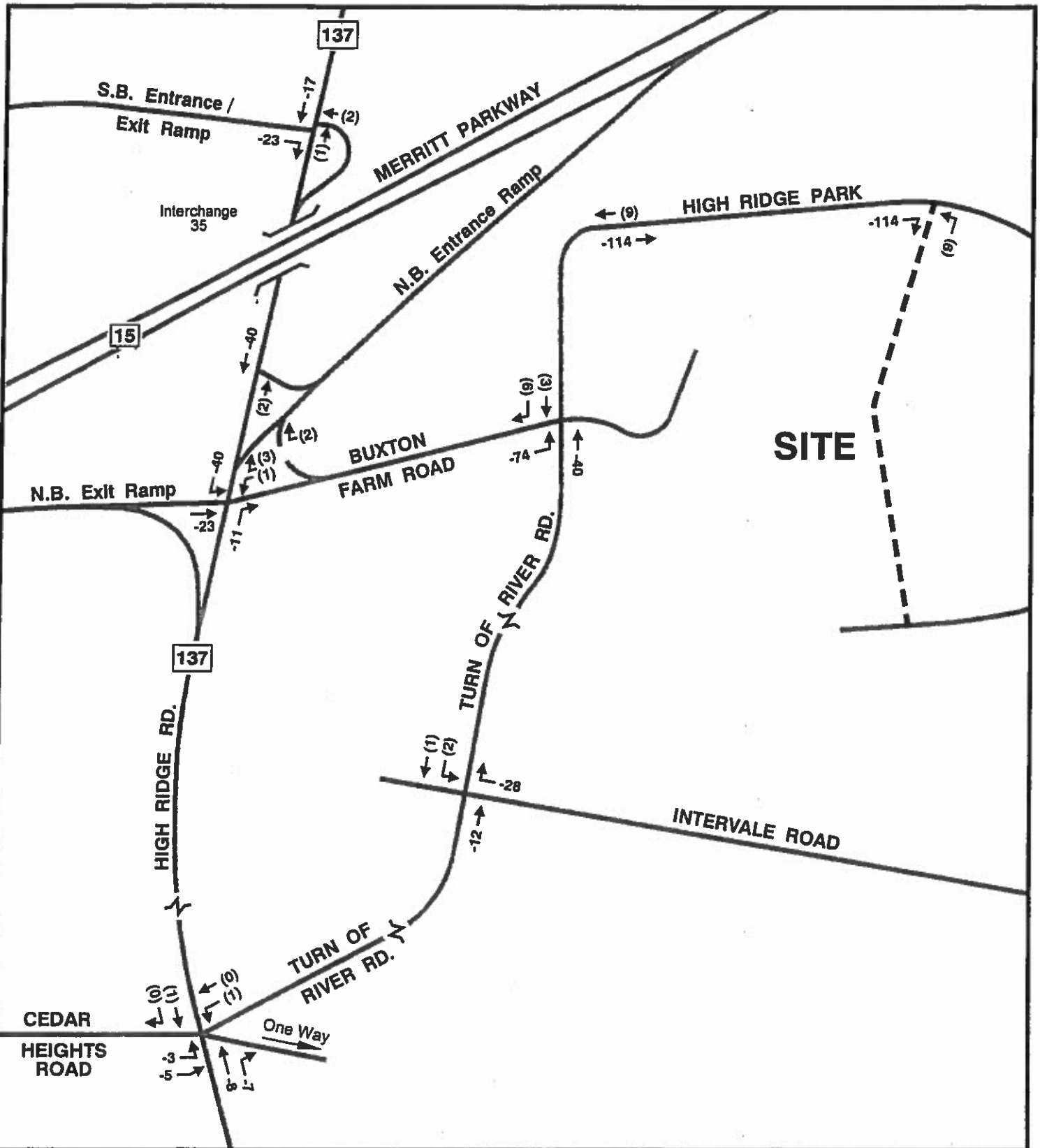
**SITE TRAFFIC DISTRIBUTION  
(LIFETIME FITNESS BUILDING)**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

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SITE TRAFFIC GENERATION			
LAND USE	SIZE	TRAFFIC DIRECTION	VEHICLE TRIP ENDS
NET DIFFERENCE	23,812 Sq.Ft.	Enter	-114
		Exit	(9)
		Total	-105

**LEGEND:**

— Proposed Site Access Drives

**NET DIFFERENCE OF  
SITE TRAFFIC GENERATION & ASSIGNMENT  
WEEKDAY MORNING PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

FREDERICK P. CLARK ASSOCIATES, INC.  
PLANNING, TRANSPORTATION, ENVIRONMENT AND DEVELOPMENT  
RYE, NEW YORK  
FAIRFIELD, CONNECTICUT



**17**

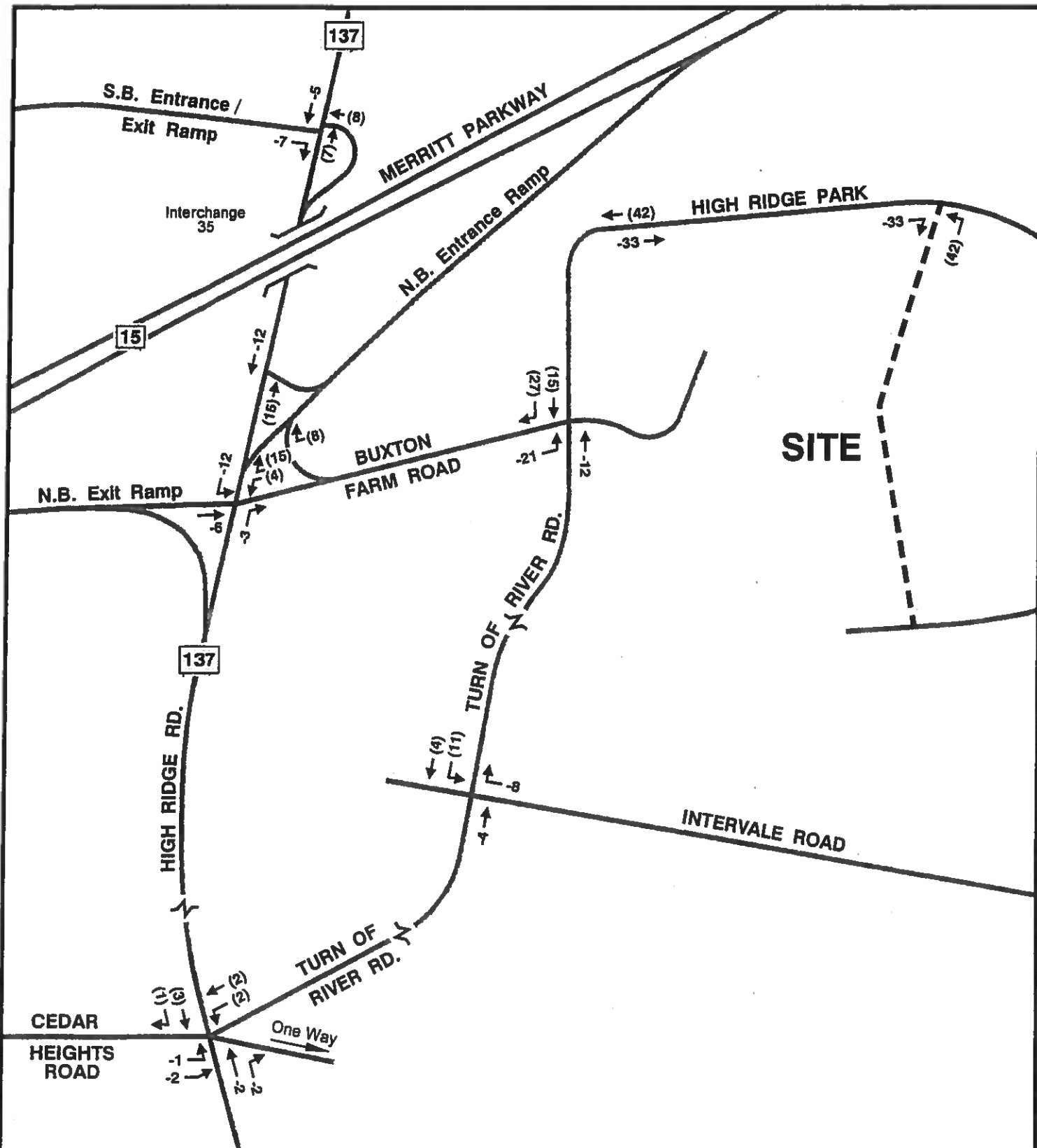
Not to Scale

6/8/17



**LEGEND:**

6/9/17



SITE TRAFFIC GENERATION			
LAND USE	SIZE	TRAFFIC DIRECTION	VEHICLE TRIP ENDS
NET DIFFERENCE	23,612 Sq.Ft.	Enter	-33
		Exit	(42)
		Total	9

**LEGEND:**

— — — Proposed Site Access Drives

**NET DIFFERENCE OF  
SITE TRAFFIC GENERATION & ASSIGNMENT  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

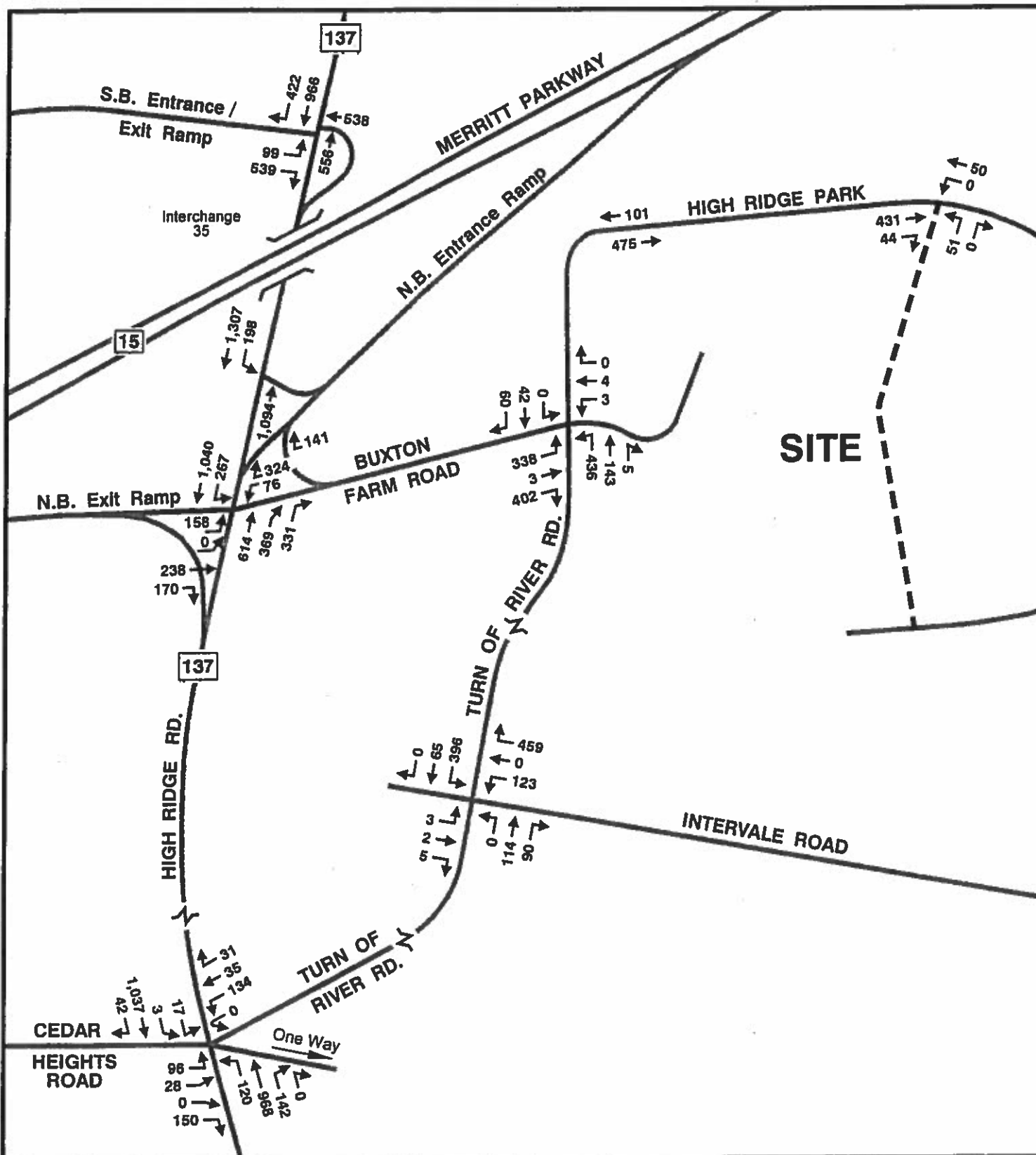
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**19**

Not to Scale

6/9/17



**LEGEND:**

--- Proposed Site Access Drives

**NOTE:**

2019 Build Traffic Volumes include the 2019 No-Build Traffic Volumes and the Net Difference of Site Traffic Generation and Assignment.

**2019 BUILD TRAFFIC VOLUMES  
WEEKDAY MORNING PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

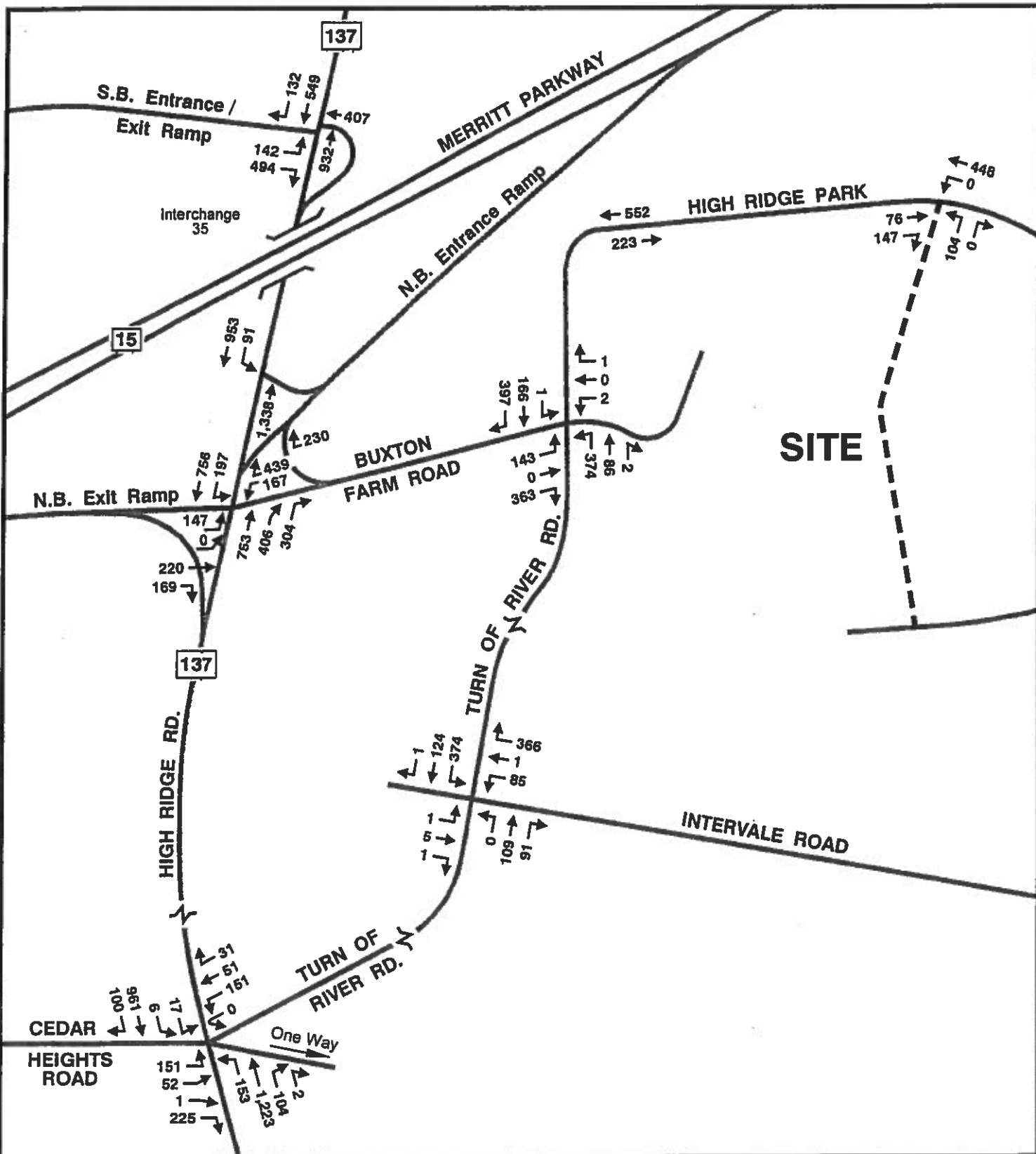


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Not to Scale

**20**

6/9/17



**LEGEND:**

— Proposed Site Access Drives

**NOTE:**

2019 Build Traffic Volumes Include the 2019 No-Build Traffic Volumes and the Net Difference of Site Traffic Generation and Assignment.

**2019 BUILD TRAFFIC VOLUMES  
WEEKDAY AFTERNOON PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**

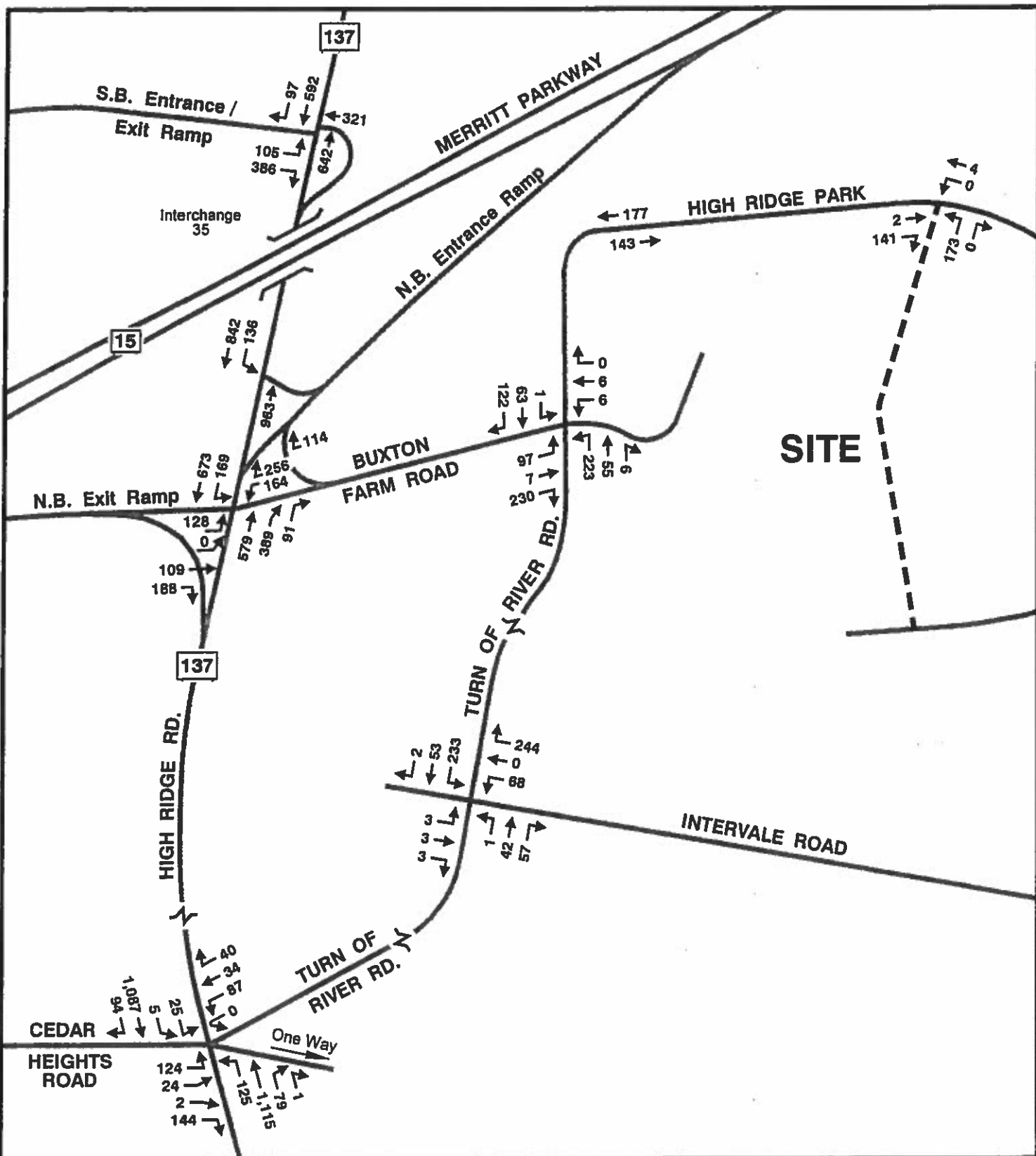


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**21**

6/9/17



**LEGEND:**

--- Proposed Site Access Drives

**NOTE:**

2019 Build Traffic Volumes include the 2019 No-Build Traffic Volumes and the Net Difference of Site Traffic Generation and Assignment.

**2019 BUILD TRAFFIC VOLUMES  
SATURDAY MIDDAY PEAK HOUR**

**PROPOSED NEW  
LIFETIME FITNESS BUILDING  
High Ridge Park - Stamford, CT**



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Not to Scale

**22**

6/9/17

## **Capacity Analysis Results – Existing, No-Build and Build Conditions**

To determine the potential impact of area roadways, capacity analyses were completed for Study Area intersections, as well as the site access drive. The comparison between a no-build and build condition provides the potential impact from the proposed development. As previously described, the proposed development will result in a net decrease in traffic impact when compared to no build conditions. Results of the capacity analysis and the storage/queue analysis indicate that the Study Area intersections will continue to operate with oversaturated conditions during the Study Area peak hours. However, this condition is not exacerbated by the proposed development. In fact, in some instances, conditions are improved, and the construction of the proposed development will result in a net decrease in traffic impact during peak hours when compared to the permitted office use on the Campus

Tables 5 and 6 provide a more detailed summary of the results of the analyses, as described above. These tables provide Level of Service, average vehicle delay and volume to capacity ratio for each lane group, approach, movement, lane and intersection overall during each of the peak hours for an existing, no-build and builds condition. It also provides a comparison between the no-build and build conditions, which identifies the potential impact (if any). Tables 7 and 8 provide a more detailed summary of the results of the Storage/Queue analyses for each lane group, movement and lane during each of the peak hours for an existing, no-build and builds condition. The capacity worksheets are included in the Appendix of this report.

## **Findings**

A Traffic Access and Impact Study was prepared to provide the City of Stamford, Connecticut Department of Transportation (ConnDOT) and the Office of the State Traffic Administration (OSTA) with a detailed analysis to determine potential traffic impacts from the proposed LifeTime Fitness Building. The site is located in the westerly side within the High Ridge Park. The proposed 114,000 square-foot Fitness Center will replace the existing 83,888 square-foot Building 3 and approximately 6,128 square-feet of office space from the office park facility, which will be converted to storage space.



Table 5  
CAPACITY ANALYSIS RESULTS FOR SIGNALIZED INTERSECTIONS -- MEASURE OF EFFECTIVENESS (MOE) AND IMPACT ASSESSMENT -- PEAK HOURS  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

INTERSECTION	CONTROL TYPE	PHYSICAL UNITS	2017 EXISTING CONDITIONS (BASELINE)						2019 NO-BUILD CONDITIONS (BASE)						2019 BUILD CONDITIONS						PROJECT IMPACTS (NO-BUILD TO BUILD)								
			Weekday Morning			Weekday Afternoon			Saturday Midday			Weekday Morning			Weekday Afternoon			Saturday Midday			Weekday Morning			Weekday Afternoon			Saturday Midday		
			LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	LOS/ Delay	V/C Ratio	Change in LOS	Project Delay (Seconds)	Change in LOS	Project Delay (Seconds)	Change in LOS	Project Delay (Seconds)	Change in LOS	Project Delay (Seconds)	Change in LOS	Project Delay (Seconds)	
Slate Route 137 (High Ridge Road) at State Route 15 (Merriitt Parkway) Southbound Ramps	Traffic Signal	EB LR	E62.1	0.97	D37.8	0.85	B11.7	0.51	F102.8	1.10	D43.4	0.89	B12.7	0.54	F06.2	1.05	D41.4	0.88	B12.7	0.54	No	-16.6	No	-2.0	No	0.0			
		WB TR	D39.8	0.48	A8.9	0.44	A9.8	0.38	E60.2	0.51	A9.6	0.45	B10.7	0.40	C20.1	0.50	B10.6	0.46	B10.4	0.39	No	-0.6	A-B	1.0	No	-0.3			
	APP	D44.1	0.90	C28.1	0.79	D47.5	0.69	F50.4	0.93	C25.9	0.82	D45.3	0.71	D51.5	—	C25.4	—	B11.5	—	B11.5	—	No	-9.0	No	-0.5	No	-0.5		
		NB T	D40.1	—	C28.1	—	D47.5	—	F50.4	—	C25.9	—	D45.3	—	D41.5	—	C26.9	—	D44.8	—	D44.8	—	No	-8.9	No	1.0	No	-0.5	
	APP	C20.6	0.35	C21.9	0.53	A6.7	0.36	B18.9	0.36	C24.4	0.58	A7.6	0.40	C21.0	0.36	C24.5	0.57	A7.5	0.40	A7.5	0.40	No	2.1	B-C	0.1	No	-0.1		
		SB TR	C34.1	0.90	B17.0	0.39	B13.7	0.40	D36.9	0.93	B18.6	0.42	A7.6	—	C21.0	0.92	C24.5	—	A7.5	—	B15.6	0.44	No	0.1	B-C	-0.1	No	-0.1	
	APP	C34.1	—	B17.0	—	A13.7	—	D36.9	—	B18.6	—	B15.7	0.44	D35.6	—	B18.3	0.42	A15.6	—	A15.6	—	No	-1.3	No	-0.3	No	0.1		
		Overall	C34.5	—	C21.8	—	B15.7	—	D40.9	—	C23.5	—	B16.7	—	D37.3	—	C23.5	—	B16.6	—	B16.6	—	No	-3.6	No	0.0	B-A	0.1	
	Slate Route 137 (High Ridge Road) at State Route 15 (Merriitt Parkway) Northbound Ramps/Burton Farm Road	Traffic Signal	EB L	D52.4	0.60	F08.3	0.84	D35.3	0.42	F052.9	0.61	F150.5	1.10	D37.0	0.46	D62.9	0.61	F117.5	0.99	D37.4	0.46	No	0.0	No	-33.0	No	0.4		
			T	F221.5	1.37	F038.2	1.76	C30.1	0.68	F279.2	1.51	F638.8	2.34	D61.5	0.87	F242.2	1.43	F581.2	2.20	D48.6	0.85	No	-37.0	No	-57.6	No	-2.9		
APP		F173.6	—	F299.9	—	C30.1	—	F219.4	—	F501.5	—	D47.2	—	F108.3	—	F453.9	—	D45.2	—	D45.2	—	No	-30.1	No	-47.6	No	-2.0		
		WB L	D43.4	0.49	D24.0	0.34	C22.6	0.45	D45.0	0.52	C24.5	0.87	C22.4	0.46	C24.3	0.36	C22.2	0.46	C22.2	0.46	No	0.7	No	-0.2	No	-0.2			
R1		E60.7	0.85	D35.6	0.73	C20.7	0.36	D45.8	0.65	D46.7	0.87	C21.8	0.43	E69.5	0.92	D40.2	0.80	C22.3	0.46	D-E	23.7	No	-6.5	No	0.5				
		R2	A0.1	0.09	A0.2	0.14	A0.1	0.05	A0.1	0.10	A0.2	0.18	A0.1	0.07	A0.1	0.10	A0.2	0.16	A0.1	0.07	No	0.0	No	0.0	No	0.0			
APP		D42.7	—	C23.6	—	F17.4	—	C31.4	—	C29.5	—	B17.4	—	D48.1	—	C26.0	—	B17.6	—	No	0.0	No	0.0	No	0.0				
		NB TR	F119.1	1.23	F491.9	2.03	F126.2	1.19	F148.7	1.31	F549.3	2.16	F140.6	1.40	F140.6	1.28	F690.9	2.23	F214.3	1.40	F214.3	1.40	No	-8.1	No	31.6	No	-2.3	
APP		F119.1	—	F491.9	—	F126.2	—	F148.7	—	F549.3	—	F216.6	—	F216.6	—	F140.6	—	F580.9	—	No	0.0	No	0.0	No	0.0				
		SB LT	C21.8	0.88	B19.2	0.72	B15.8	0.61	C21.4	0.89	C20.7	0.74	B15.5	0.64	C22.1	0.89	C20.3	0.75	B15.7	0.64	No	0.7	No	-0.4	No	0.2			
Slate Route 137 (High Ridge Road) at Cedar Heights Road/Turn of River Road	Traffic Signal	EB L	F82.5	—	F248.3	—	B19.2	—	C21.4	—	F290.3	—	F83.1	—	F83.1	—	F290.3	—	B15.7	—	No	0.7	No	-0.4	No	0.2			
		Overall	F82.5	—	F248.3	—	E61.6	—	F100.1	—	F290.3	—	F83.1	—	F83.1	—	F290.3	—	F83.9	—	No	-10.0	No	9.1	No	-1.5			
	TR	C25.2	0.26	C32.1	0.39	C29.4	0.36	C25.6	0.27	C31.9	0.40	C29.7	0.37	C25.4	0.27	C32.2	0.40	C29.8	0.37	C29.8	0.37	No	-0.2	No	0.3	No	0.1		
		APP	D47.2	0.59	E76.9	0.89	D48.4	0.57	D48.4	0.59	E75.7	0.89	D47.6	0.59	D48.2	0.59	E75.7	0.89	D47.9	0.59	No	-0.4	No	-0.4	No	0.3			
	WB L	D39.6	—	E61.2	—	D40.3	—	E60.6	—	D40.1	—	D40.1	—	D40.2	—	E60.4	—	D40.3	—	D40.3	—	No	-0.1	No	-0.2	No	0.2		
		TR	C25.7	0.31	C33.2	0.37	C28.3	0.27	C25.9	0.32	C31.4	0.37	C29.2	0.30	C25.8	0.32	C33.6	0.38	C29.4	0.30	No	-0.1	No	2.2	No	0.2			
	TR	A1.3	0.14	A6.5	0.23	A3.1	0.23	A1.9	0.15	A7.8	0.22	A4.5	0.25	A1.9	0.15	A7.6	0.24	A4.8	0.26	No	0.0	No	0.0	No	0.2				
		APP	B17.8	—	C23.9	—	B16.6	—	B18.0	—	C23.1	—	B17.8	—	B18.0	—	C23.1	—	B18.1	—	No	0.0	No	1.4	No	0.3			
	NB L	B14.5	0.43	B16.6	0.49	B12.9	0.44	B14.9	0.45	B17.7	0.52	B13.5	0.46	B14.8	0.44	B17.3	0.51	B13.6	0.47	No	-0.1	No	-0.4	No	0.1				
		B19.9	0.63	C23.3	0.70	B18.4	0.63	C20.6	0.66	C24.3	0.72	B19.0	0.65	C20.3	0.64	C24.2	0.72	B18.9	0.65	No	-0.1	No	0.0	No	-0.1				
APP	B19.4	—	C22.6	—	B17.9	—	C20.0	—	C23.6	—	B18.4	—	B18.4	—	B19.8	—	C23.5	—	B18.4	—	No	-0.2	No	-0.1	No	0.0			
	SB L	B10.2	0.08	B12.2	0.10	A9.2	0.11	A9.9	0.08	B12.4	0.11	A9.0	0.12	B10.1	0.08	B12.2	0.11	A9.1	0.12	A-B	-0.2	No	-0.2	No	0.0				
TR	C24.3	0.71	C25.7	0.67	C20.2	0.69	C25.1	0.74	C27.2	0.71	C21.1	0.72	C24.9	0.73	C26.7	0.69	C21.0	0.72	No	-0.2	No	-0.5	No	-0.1					
	APP	C24.1	—	C28.7	—	C20.7	—	C23.8	—	C29.5	—	C21.5	—	C23.6	—	C24.7	—	C20.8	—	No	-0.2	No	-2.4	No	0.0				
Overall	C23.1	—	C28.7	—	C20.7	—	C23.8	—	C29.5	—	C21.5	—	C23.6	—	C24.7	—	C20.8	—	No	-0.2	No	-2.4	No	0.0					

Notes:

- Synchro 9.0 results are used for capacity analysis.
- Level of Service determining parameter is called the service measure.
- For Signalized Intersections: Level of Service/Average Total delay per vehicle (seconds/vehicle).
- ITE publication for Traffic Access and Impact Studies for site development "A Recommended Practice" indicated that overall Level of Service ratings of A to D are normally considered acceptable for signalized intersections (Level C or better are considered desirable). Levels of Service E and F are normally undesirable.

Table 5 Cont'd

- V/C ratio indicates the amount of congestion for each Lane Group. Any V/C ratio greater than or equal to one indicates that the Lane Group is operating at above capacity.
- R1 = Right Turn to State Route 137 (High Ridge Road).
- R2 = Right Turn to State Route 15 (Meritt Parkway) Northbound On-Ramp.
- Physical Units consist of the following:

1. Lane Group, Approach and Intersection Overall for Traffic Signal Controlled Intersections.

NB = Northbound      EB = Eastbound      SB = Southbound      WB = Westbound  
 L = Left Turn      T = Through      R = Right Turn      APP = Approach

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**Table 7**  
**STORAGE/QUEUE ANALYSIS RESULTS FOR SIGNALIZED INTERSECTIONS – PEAK HOURS**  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

INTERSECTION	CONTROL TYPE	STORAGE/ LINK LENGTH	PHYSICAL UNITS	2017 EXISTING CONDITIONS (BASELINE)						2019 NO-BUILD CONDITIONS (BASE)						2019 BUILD CONDITIONS					
				Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday
				Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)	Queue Length (Feet)
State Route 137 (High Ridge Road) at State Route 15 (Meritt Parkway) Southbound Ramps	Traffic Signal	1,900	EB LR	294	178	71	365	217	80	337	207	80	337	207	78	337	207	80	337	207	78
		350	R	225	105	77	247	118	88	237	127	88	237	127	85	237	127	88	237	127	85
		165	WB T	420	161	144	428	157	146	416	155	146	416	155	150	416	155	146	416	155	150
		625	NB T	102	170	136	96	181	128	102	177	128	102	177	128	102	177	128	102	177	128
State Route 137 (High Ridge Road) at State Route 15 (Meritt Parkway) Northbound Ramps/ Buxton Farm Road	Traffic Signal	1,330	SB TR	584	210	182	648	224	203	634	229	203	634	229	202	634	229	203	634	229	202
		200	EB L	187	259	114	189	263	115	189	263	115	189	263	115	189	263	115	189	263	115
		150	TR	590	589	190	661	640	274	616	662	274	616	662	261	616	662	274	616	662	261
		530	WB L	83	125	90	87	143	99	89	135	99	89	135	101	89	135	99	89	135	101
State Route 137 (High Ridge Road) at Cedar Heights Road/Turn of River Road	Traffic Signal	250	R1	380	366	121	252	515	151	421	448	151	421	448	161	421	448	151	421	448	161
		380	R2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		625	NB TR	834	1099	546	860	1132	594	852	1145	594	852	1145	590	852	1145	594	852	1145	590
		700	SB LT	408	247	202	402	271	220	410	277	220	410	277	217	410	277	220	410	277	217
State Route 137 (High Ridge Road) at Cedar Heights Road/Turn of River Road	Traffic Signal	175	EB L	81	139	103	90	144	115	86	147	115	86	147	114	86	147	115	86	147	114
		460	TR	227	394	173	271	397	231	252	400	231	252	400	227	252	400	231	252	400	227
		100	WB L	107	136	71	116	153	82	114	147	82	114	147	84	114	147	82	114	147	84
		75	TR	5	30	9	8	38	15	8	34	15	8	34	17	8	34	15	8	34	17
State Route 137 (High Ridge Road) at Cedar Heights Road/Turn of River Road	Traffic Signal	250	NB L	61	85	61	57	84	56	58	83	56	58	83	55	58	83	56	58	83	55
		150	TR	368	528	395	362	536	384	365	535	384	365	535	383	365	535	384	365	535	383
		700	SB L	14	16	17	13	15	15	13	15	15	13	15	16	13	15	15	13	15	16
		700	TR	283	318	310	268	325	291	279	215	291	279	215	295	279	215	291	279	215	295

**Notes:**

- Synchro 9.0 Macroscopic model is used for storage/queue analysis.
- The Queue Length rows show the 95<sup>th</sup> percentile maximum queue length in feet.
- The Queue Length is for each lane. The total queue length is divided by the number of lanes and the lane utilization factor.
- The 95<sup>th</sup> percentile queue is the maximum back of the queue with the 95<sup>th</sup> percentile traffic volumes.
- Bolded 95<sup>th</sup> percentile queue exceeds the storage available.
- R1 = Right Turn to State Route 137 (High Ridge Road).
- R2 = Right Turn to State Route 15 (Meritt Parkway) Northbound On-Ramp.
- Physical Units consist of the following:
  1. Lane Group for Traffic Signal Controlled Intersections.

NB = Northbound  
L = Left Turn  
EB = Eastbound  
T = Through  
SB = Southbound  
R = Right Turn  
WB = Westbound

Table 8  
STORAGE/QUEUE ANALYSIS RESULTS FOR UNSIGNALIZED INTERSECTIONS – PEAK HOURS  
Proposed New LifeTime Fitness Building  
High Ridge Park  
Stamford, Connecticut

INTERSECTION	CONTROL TYPE	STORAGE/ LINK LENGTH (Vehicle)	PHYSICAL UNITS	2017 EXISTING CONDITIONS (BASELINE)			2019 NO-BUILD CONDITIONS (BASE)			2019 BUILD CONDITIONS		
				Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday	Weekday Morning	Weekday Afternoon	Saturday Midday
State Route 137 (High Ridge Road) at Southbound Left Turn Northbound On-Ramp	TWSC	19.4	SB L	1.6	1.1	0.5	1.6	1.1	0.5	4.0	2.1	1.8
				Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)	Queue Length (Vehicle)
Turn of River Road at Buxton Farm Road/ Assisted Living Access Drive	AWSC	21.0	EB Ln1	3.2	5.7	1.2	36.9	9.7	3.1	29.0	13.3	2.8
			WB Ln1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1
			NB Ln1	10.0	6.6	1.4	19.1	9.8	2.5	16.4	12.2	2.4
			SB Ln1	0.3	6.9	0.1	0.7	26.4	0.8	0.7	18.6	1.1
Turn of River Road at Intervale Road/Access Drive	AWSC	3.0	EB Ln1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0
			WB Ln1	20.0	1.3	1.6	26.9	8.6	2.2	23.0	10.1	2.1
			NB Ln1	2.2	1.2	0.4	2.6	1.9	0.5	2.4	2.1	0.5
			SB Ln1	12.0	6.6	1.4	13.4	17.8	2.0	13.9	15.2	2.2
High Ridge Park Road at proposed Site Access Drive	TWSC	10.0	WB L	N/A	N/A	N/A	N/A	N/A	N/A	0.0	0.0	0.0
			NB Ln1	N/A	N/A	N/A	N/A	N/A	N/A	0.4	2.3	1.0

Notes:

- Synchro 9.0 Macroscopic model/HCM 2010 results are used for storage/queue analysis.
- The Queue Length rows show the 95<sup>th</sup> percentile maximum queue length in vehicles.
- The Queue Length is for each lane. The total queue length is divided by the number of lanes and the lane utilization factor.
- The 95<sup>th</sup> percentile queue is the maximum back of the queue with the 95<sup>th</sup> percentile traffic volumes.
- Bolded 95<sup>th</sup> percentile queue exceeds the storage available.
- TWSC = Two-Way STOP Control.
- N/A = Not Available.
- Physical Units consist of the following:
  1. TWSC Intersections: Critical Lane and Critical Movement

NB = Northbound EB = Eastbound SB = Southbound WB = Westbound  
 L = Left Turn T = Through R = Right Turn  
 Ln = Lane



For the purposes of completing the Study, the proposed development is expected to be completed and fully occupied by the end of 2019.

This Traffic Study addresses traffic conditions for the 2017 existing, the 2019 future no-build and build conditions during the weekday morning, weekday afternoon and Saturday midday peak hours of the adjacent street system. The 2017 baseline traffic volumes were extracted from manual turning movement counts conducted for all but one of the Study Area intersections in January and March of 2017 during the weekday morning, weekday afternoon and Saturday midday peak periods. Traffic volumes for the intersection of High Ridge Road at Cedar Heights Road/Turn of River Road were derived from another Traffic Study prepared by this office.

Future no-build traffic volumes, without the proposed development, assumed that the currently vacant Building 3 was re-occupied with medical uses. A 0.6 percent annual growth rate was employed to the existing traffic volumes to the design year of 2019 as required by ConnDOT. No other developments were identified by either the City of Stamford Planning Department or the ConnDOT Planning Division for inclusion in this analysis. The annual growth rate is consistent with the City of Stamford and ConnDOT rates.

Traffic generation for both the vacant Building 3 re-occupancy with medical uses and the proposed LifeTime Fitness building are based on trip generation rates provided by the Institute of Transportation Engineers (ITE). It is anticipated that the removal of re-occupied Building 3 with medical and the 6,128 square-feet of office space (to be removed) were to remain, it is anticipated that it would generate a total of 210, 309 and 308 vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively.

It is anticipated that the proposed Fitness Center will generate a total of 161, 402 and 317 total trip ends, of which 56, 141 and 0 are internal trips and 105, 261 and 317 are external vehicle trip ends during the weekday morning, weekday afternoon and Saturday midday peak hours, respectively. The

net difference between the re-occupancy of Building 3 with medical uses and the proposed development is 105 and 48 fewer vehicle trip ends during the weekday morning and weekday afternoon peak hours and an increase of 9 vehicle trip ends during the Saturday midday peak hours, respectively. Thus, the proposed development will have a reduced traffic impact on area roadways during weekday peak hours compared to the no build condition and only generate 9 additional trips during the Saturday midday peak hour.

Based on a review of current traffic patterns at Study Area intersections, anticipated travel routes to the site and guidance from ConnDOT, a distribution plan was developed. As described above, the site access drives will be to the internal High Ridge Park driveway. It is assumed that all traffic will use the northerly internal access drive, to be conservative. It was determined that 20 percent of the site traffic will arrive from and depart to the east and west (each way), respectively, on State Route 15, 25 percent arrive from and depart to the east on Intervale Road, 15 percent will arrive from and depart to the north on High Ridge Road, 13 percent will arrive from and depart to the south on High Ridge Road and 7 percent will arrive from and depart to the west on Cedar Heights Road.

Future 2019 build traffic volumes were developed based on adding the net increase in site traffic generation to the 2019 no-build traffic volumes, as previously described.

SYNCHRO 9 macroscopic capacity analysis were conducted for the 2017 existing, 2019 no-build and build conditions to identify incremental traffic impacts and needs that the proposed development will generate during peak hours.

Results of the capacity analysis and the storage/queue analysis indicate that the Study Area intersections will continue to operate with traffic congestion during the Study Area peak hours. However, this condition is not exacerbated by the proposed development. In fact, in some instances, conditions will improve, and the construction of the proposed development will result in a net decrease in traffic impact during peak hours when compared to the permitted office use on the Campus.

PHOTOGRAPHS



High Ridge Park at Turn of River Road Looking East



Assisted Living Access Drive at Turn of River Road Looking East



Turn of River Rd. at Buxton Farm Rd. / Assisted Living Access Drive Looking South



Intervale Road at Turn of River Road Looking East

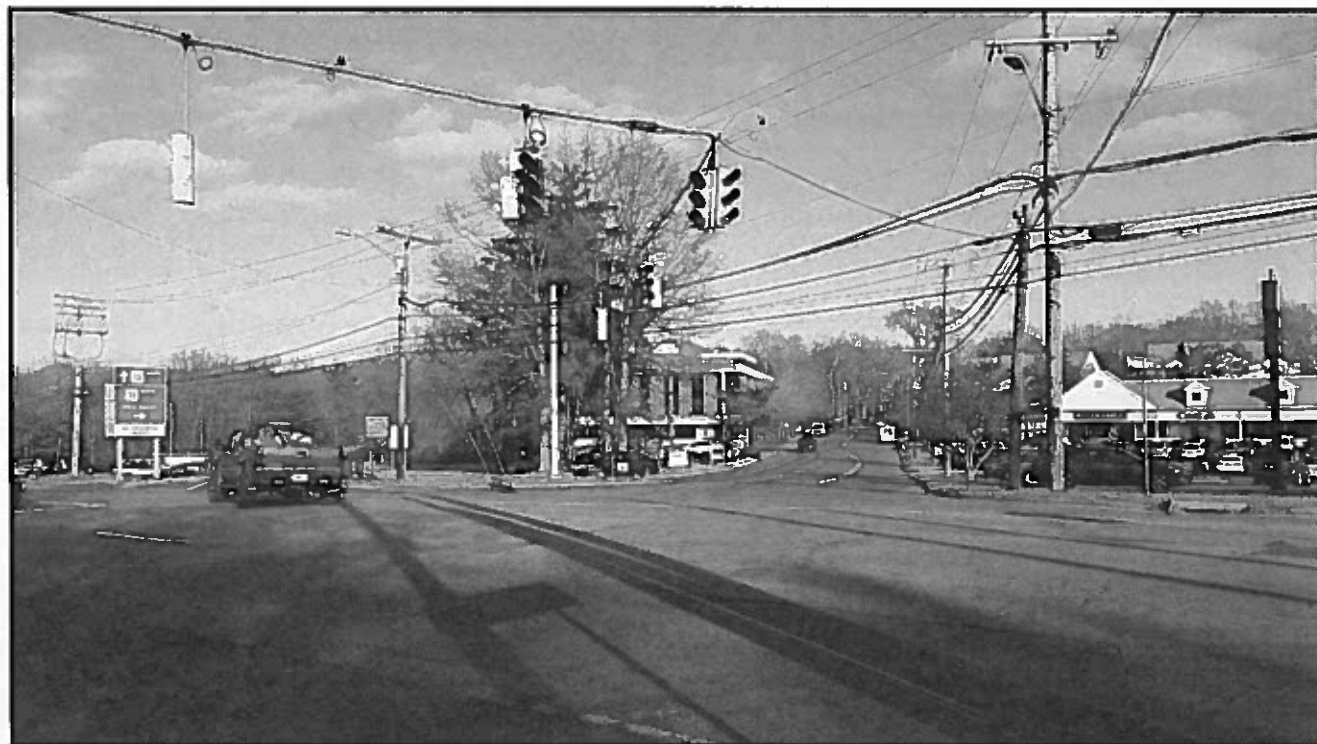
January 26, 2017  
Frederick P. Clark Associates, Inc.

File: G:\853 400 New LifeTime Fitness Building, Stamford\Word\TrafficPhotos.doc

**Exhibit 3**



Turn of River Road at Intervale Road / Access Drive Looking South



Buxton Farm Road at High Ridge Road Looking East

January 26, 2017  
Frederick P. Clark Associates, Inc.

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**Exhibit 5**





High Ridge Rd. at SR 15 Northbound Ramps / Buxton Farm Rd. Looking South



On-Ramp to State Route 15 Southbound at High Ridge Road Looking East





High Ridge Road at State Route 15 Southbound Ramps Looking South

January 26, 2017  
Frederick P. Clark Associates, Inc.

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**Exhibit 9**