

Raw Traffic Model Results

Intersection Level of Service (LOS)

4/1/2020

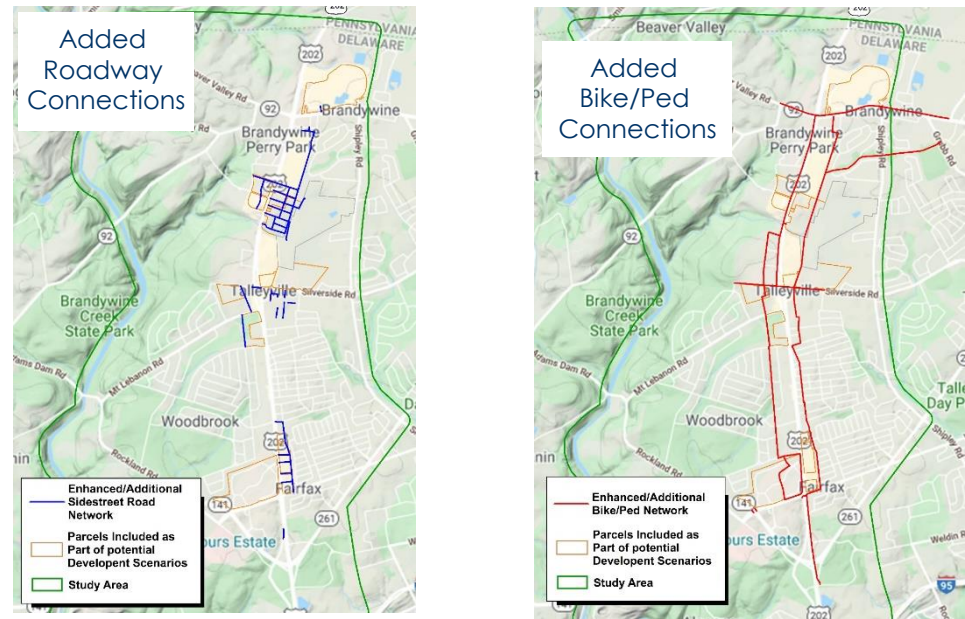


Transportation & Land Use Alternative Analysis Modeling Approach

Modeling Approach: Analyze existing, or "by-right", zoning and proposed zoning land use scenarios (of varying development intensity) in combination with changes to the transportation system previously proposed in March 2019. This included added street and bike/ped connections along the corridor.

Transportation Scenarios and Analysis Assumptions:

Scenarios were developed with varied levels of additional roadway and bike/ped infrastructure based on proposals made at the March 20th workshop.



Key traffic analysis assumptions include:

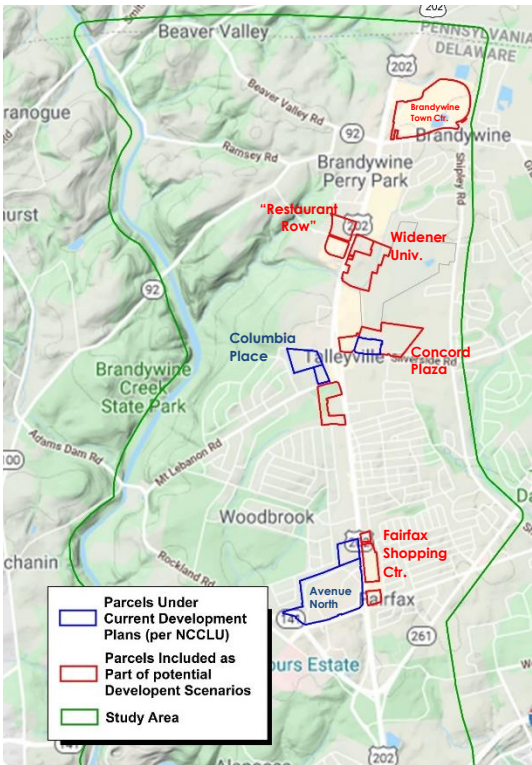
- Conditions for each will be analyzed with a future year of 2050
- A 13% increase in background traffic growth (through-trips) by motor vehicle trips on Route 202 from 2019-2050
- Site-level vehicle trips were generated for each land use alternative
- Analysis performed using Synchro software commonly used in traffic impact studies
- Added roadway connections provide more local route options, allowing alternatives from less congested intersections.
- Added bike/ped connections make walking, biking, and transit more viable options. With these new connections, 13% of new office trips and up to 30% of new residential trips were assumed to walk, bike, or take transit.

Land Development:

3 land use alternatives were developed to simulate traffic impacts of varied levels of growth. Scenario 1 includes a total of all active land use plans (per NCCLU, shown in BLUE on map) and development at several sites along the corridor (shown in RED on map) per existing zoning. Scenarios 2 and 3 are "what if" possibilities of proposed zoning, both a "low" and "high" growth scenario at several sites along the corridor (also shown in RED).

Scenario #1: "By-Right" Land Development Scenario
-282,000 s.f new retail
-1,672 new residential units
-603 net new hotel rooms
-534,000 s.f. new office space
-Loss of 19,000 s.f. Civic/ Institutional uses
Scenario #2: Proposed Zoning - "Low Growth" Land Use Scenario
-204,000 s.f new retail
-3,248 new residential units
-753 net new hotel rooms
-Loss of 31,000 s.f. office space
-5,500 s.f. new Civic/Institutional uses
Scenario #3: Proposed Zoning - "High Growth" Land Use Scenario
-238,000 s.f new retail
-4,178 new residential units
-753 net new hotel rooms
-191,000 s.f. new office space
-18,000 s.f. new Civic/Institutional uses

Land Use Scenario Components



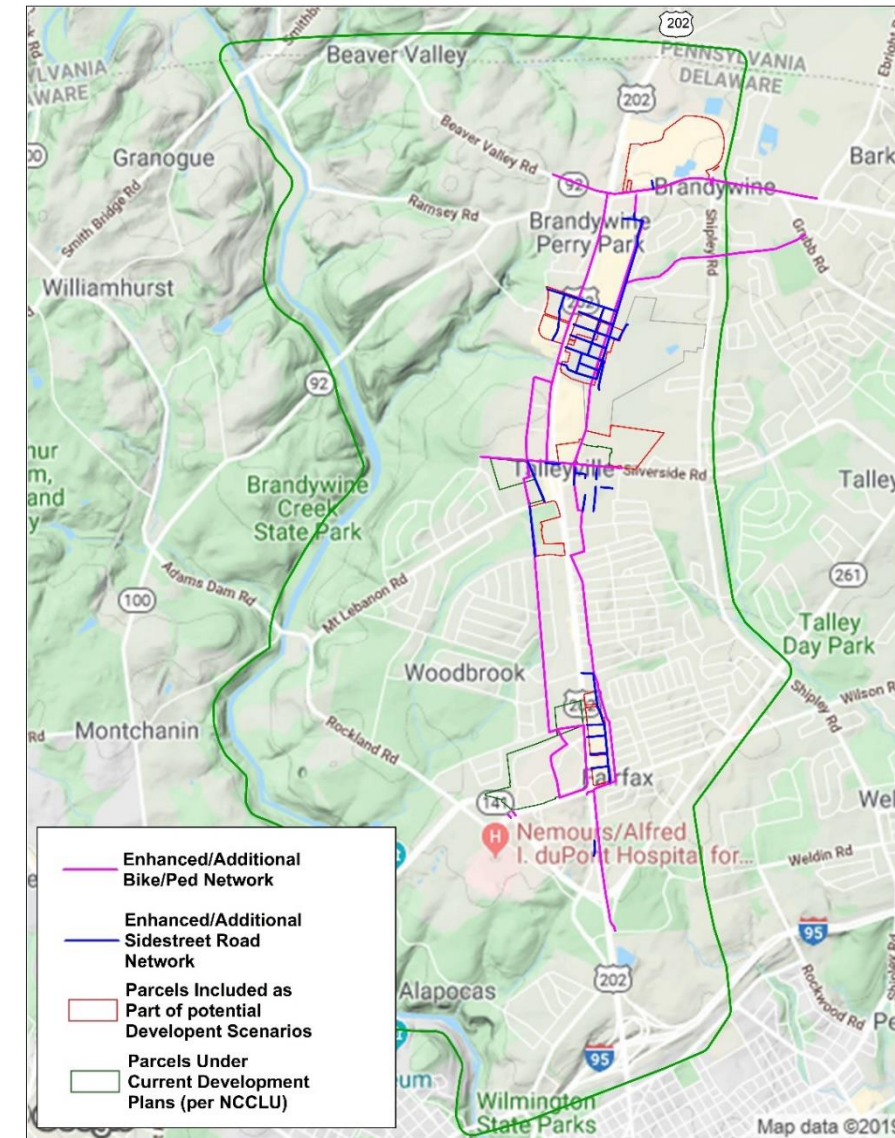
Transportation & Land Use Alternative Analysis Modeling Approach

Future land Use Conditions Modeled (Year 2050):

- **"BASELINE":**
 - Background increase in through vehicle trips on Concord Pike (Route 202)
- **"BY-RIGHT":**
 - Redevelopment consistent with existing zoning
 - Includes current plans and redevelopment focus areas
- **"Proposed Zoning – Low Growth":**
 - Redevelopment zoning
 - Includes current plans and modest growth in redevelopment focus areas
- **"Proposed Zoning – High Growth":**
 - Redevelopment zoning
 - Includes current plans and higher growth in redevelopment focus areas

Land Use Alternatives were analyzed with the following transportation changes

- **"Do Nothing":** No new transportation improvements
- **Enhanced Road Connections:**
 - Provide additional route choices for local trips
 - Vehicles shifted to less congested intersections
- **Enhanced Road and Bike Connections:**
 - Additional pedestrian and bicycle connections
 - Vehicle trip estimates reduced by assuming more people walk, bike and take the bus



Intersection Level of Service (LOS) defined

Per 2010 Highway Capacity Manual: Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption.

Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. LOS A through D is considered adequate for congestion in NCC per current standards

Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F ¹	>80	Forced flow (congested and queues fail to clear)

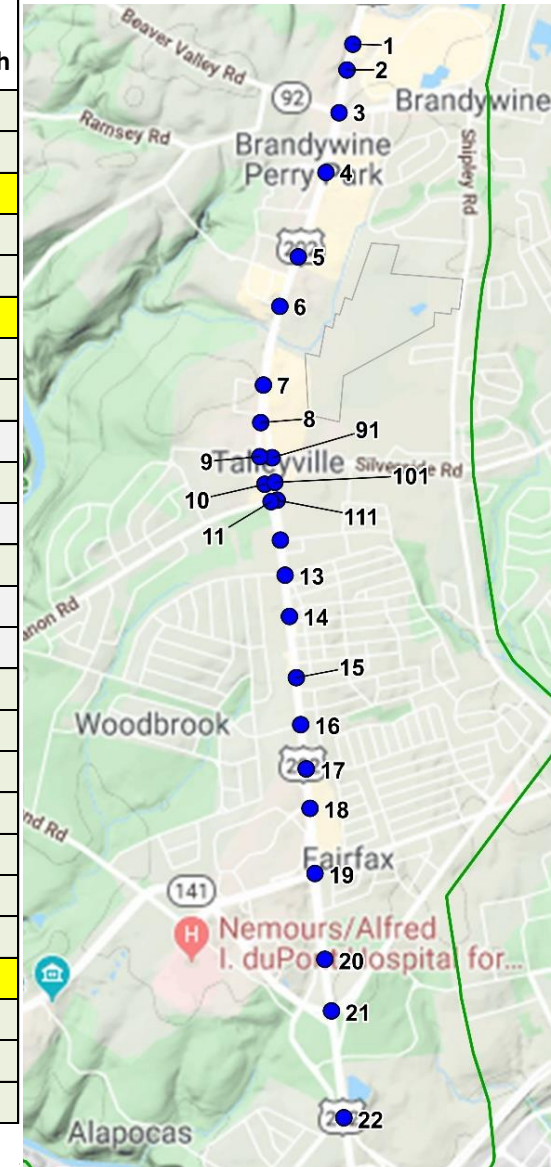
Source: *Highway Capacity Manual 2010*, Transportation Research Board, 2010.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Current Conditions (2019) with Directional LOS*

Int #	Current LOS (2019) Intersection Name	AM						PM					
		Overall Int. LOS	Overall Delay (s)	EB Approach	WB Approach	NB Approach	SB Approach	Overall Int. LOS	Overall Delay (s)	EB Approach	WB Approach	NB Approach	SB Approach
1	US 202 & Brandywine Pkwy	A	9.8	NA	D	A	B	B	18.7	NA	D	B	B
2	US 202 & Chubb Ent	A	1.0	E	NA	A	A	A	6.9	D	NA	A	A
3	US 202 & SR 92 Naamans Rd	C	31.4	E	E	A	C	D	44.3	E	E	B	D
4	US 202 & Concord Mall North	A	5.7	D	B	A	A	B	17.5	E	B	B	B
5	US 202 & Concord Mall South	A	4.0	NA	E	A	A	A	8.2	NA	E	A	A
6	US 202 & Rocky Run Pkwy/Widener U	D	38.2	E	E	C	D	D	42.5	E	E	C	D
7	US 202 & Righter Pkwy/Concord Square	C	24.9	B	D	C	C	C	29.2	C	D	C	C
8	US 202 SB & NB U-turn	B	11.5	NA	D	NA	A	B	13.2	NA	E	NA	A
91	US 202 NB & Silverside Rd	C	26.7	C	D	B	NA	C	34.1	E	E	C	NA
9	US 202 SB & Garden of Eden Rd	C	21.7	D	A	NA	C	B	16.3	D	B	NA	B
101	US 202 NB & Brandywine Blvd	A	4.6	NA	E	A	NA	A	5.8	NA	E	A	NA
10	US 202 SB & Brandywine Blvd	A	2.4	NA	C	NA	A	A	4.6	NA	A	NA	A
111	US 202 NB & Mt Lebanon Rd	B	14.0	A	NA	B	NA	C	31.5	A	NA	D	NA
11	US 202 SB & Mt Lebanon Rd	B	16.3	D	NA	NA	NA	C	24.7	D	NA	NA	NA
12	US 202 & Prospect Ave	A	9.1	B	C	A	B	B	10.1	B	C	A	B
13	US 202 & Whitby Rd/Florence Ave	D	37.4	F	E	C	C	D	40.2	F	D	C	C
14	US 202 & Concord Ave	B	11.6	E	E	C	A	C	20.4	E	E	C	B
15	US 202 & Woodrow Ave	A	2.5	E	E	A	A	A	3.1	E	E	A	A
16	US 202 & Sharpley Rd	B	12.3	C	NA	B	B	B	14.9	D	NA	B	A
17	US 202 & Fairfax Blvd	C	34.3	B	D	A	D	C	28.6	D	D	D	B
18	US 202 & AZ Ent/Fairfax Shopping Ctr	D	54.1	B	E	B	E	C	29.1	D	F	C	B
19	US 202 & Powder Mill Rd/Murphy Rd	D	46.8	E	F	D	C	E	58.1	E	F	E	D
20	US 202 & Independence Mall	A	4.7	NA	E	A	A	A	6.1	NA	E	A	B
21	US 202 & Foulk Rd	C	20.9	D	E	B	A	B	14.7	D	E	B	A
22	US 202 & Augustine Cutoff	A	5.1	A	NA	E	A	A	5.9	A	NA	E	A
Weighted Avg. Intersection Delay (Whole Corridor)			18.2						20.1				

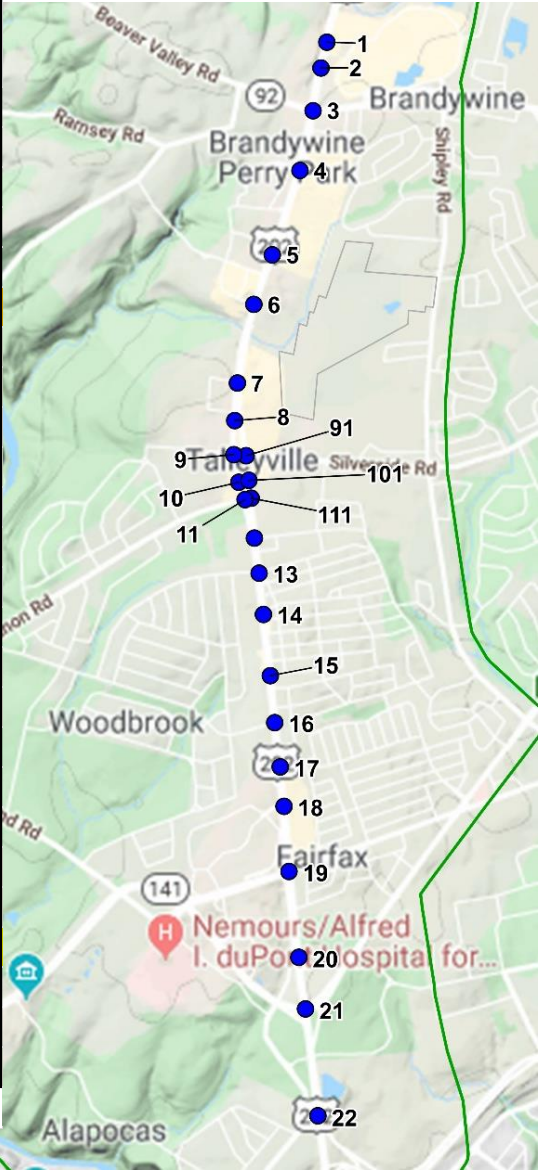
* Using most recent count available



Baseline Conditions (2050) LOS*

Baseline LOS (2050)		AM						PM					
Int #	Intersection Name	Overall Int. LOS	Overall Delay (s)	EB Approach	WB Approach	NB Approach	SB Approach	Overall Int. LOS	Overall Delay (s)	EB Approach	WB Approach	NB Approach	SB Approach
1	US 202 & Brandywine Pkwy	B	10.4	NA	D	A	B	B	19.3	NA	D	B	B
2	US 202 & Chubb Ent	A	1.1	E	NA	A	A	A	8.0	D	NA	A	A
3	US 202 & SR 92 Naamans Rd	C	30.9	E	E	A	C	D	51.9	E	E	D	D
4	US 202 & Concord Mall North	A	6.8	D	B	A	A	B	18.9	E	B	C	B
5	US 202 & Concord Mall South	A	3.8	NA	E	A	A	B	10.9	NA	E	B	B
6	US 202 & Rocky Run Pkwy/Widener U	D	42.7	E	E	C	D	D	46.9	E	E	D	E
7	US 202 & Righter Pkwy/Concord Square	C	26.2	B	D	C	C	C	31.5	C	D	D	C
8	US 202 SB & NB U-turn	B	12.4	NA	E	NA	A	B	14.2	NA	E	NA	A
91	US 202 NB & Silverside Rd	C	27.3	C	D	C	NA	E	63.8	E	E	E	NA
9	US 202 SB & Garden of Eden Rd	C	24.1	D	A	NA	C	B	17.7	D	B	NA	B
101	US 202 NB & Brandywine Blvd	A	4.6	NA	E	A	NA	B	10.9	NA	E	A	NA
10	US 202 SB & Brandywine Blvd	A	2.4	NA	C	NA	A	A	4.7	NA	A	NA	A
111	US 202 NB & Mt Lebanon Rd	B	15.6	A	NA	B	NA	E	63.9	A	NA	E	NA
11	US 202 SB & Mt Lebanon Rd	B	18.6	D	NA	E	B	C	27.3	D	NA	B	C
12	US 202 & Prospect Ave	B	10.1	B	C	A	B	B	11.4	B	C	B	B
13	US 202 & Whitby Rd/Florence Ave	D	40.9	F	E	C	D	D	45.2	F	D	D	C
14	US 202 & Concord Ave	B	14.8	E	E	C	A	C	23.9	E	E	C	B
15	US 202 & Woodrow Ave	A	6.1	E	E	A	A	A	9.0	E	E	A	A
16	US 202 & Sharpley Rd	B	13.8	C	NA	B	B	B	17.4	C	NA	C	A
17	US 202 & Fairfax Blvd	D	40.0	B	D	A	E	E	56.9	D	E	F	C
18	US 202 & AZ Ent/Fairfax Shopping Ctr	E	56.6	B	E	B	E	D	36.4	D	F	D	C
19	US 202 & Powder Mill Rd/Murphy Rd	D	47.2	E	F	D	C	E	76.9	E	F	F	D
20	US 202 & Independence Mall	A	5.3	NA	E	A	B	A	5.9	NA	E	A	B
21	US 202 & Foulk Rd	C	21.7	D	E	C	A	B	15.2	D	E	B	A
22	US 202 & Augustine Cutoff	A	7.7	A	NA	E	A	A	8.1	A	NA	E	A
Weighted Avg. Intersection Delay (Whole Corridor)			19.9							26.4			

* Baseline is a measurement of 2050 conditions with future background traffic (no added development) and no transportation improvements.

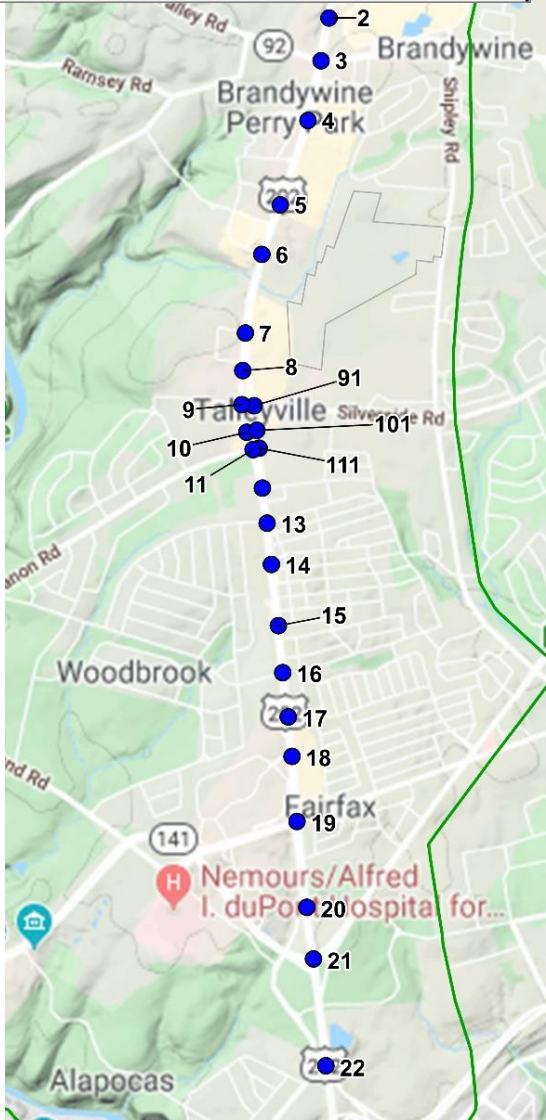


2050 #1 “By-Right” Land Use Comparison to Transportation Improvements

	#1: By-Right Development	2050 "Do-Nothing"				2050 Enhanced Vehicle Network				2050 Enhanced Vehicle & Ped Network			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	C	30.8	C	23.7	B	17.4	C	23.8	B	12.5	B	14.7
2	US 202 & Chubb Ent	A	1.4	A	7.4	A	1.6	A	7.1	A	4.9	A	6.6
3	US 202 & SR 92 Naamans Rd	C	34.3	E	66.1	C	33.6	E	58.4	C	32.9	E	60.8
4	US 202 & Concord Mall North	B	10.7	B	17.7	B	10.5	B	17.8	B	10.4	B	16.4
5	US 202 & Concord Mall South	A	1.9	A	5.9	A	2.2	A	5.5	A	2.0	A	5.7
6	US 202 & Rocky Run Pkwy/Widener U	B	16.3	C	26.5	C	20.5	C	34.1	C	20.0	C	30.2
7	US 202 & Righter Pkwy/Concord Square	C	27.2	D	49.2	C	29.0	E	63.5	C	28.7	E	59.5
8	US 202 SB & NB U-turn	B	13.9	D	37.8	B	13.9	E	75.1	B	13.7	E	59.8
91	US 202 NB & Silverside Rd	D	40.7	E	72.3	C	28.0	E	75.0	C	25.5	E	67.9
9	US 202 SB & Garden of Eden Rd	D	40.7	C	21.7	C	20.8	C	21.8	B	19.5	C	20.2
101	US 202 NB & Brandywine Blvd	A	4.8	E	56.2	A	3.6	D	36.6	A	4.4	B	17.9
10	US 202 SB & Brandywine Blvd	A	2.8	A	4.6	A	2.9	B	14.5	A	4.2	A	5.4
111	US 202 NB & Mt Lebanon Rd	C	23.9	F	89.3	C	23.5	F	84.5	C	23.0	F	85.1
11	US 202 SB & Mt Lebanon Rd	C	29.5	D	50.7	C	30.1	D	44.1	C	28.5	D	49.4
12	US 202 & Prospect Ave	B	14.9	E	65.8	B	11.3	B	17.7	B	11.0	B	15.6
13	US 202 & Whitby Rd/Florence Ave	D	35.1	D	39.8	C	32.8	D	39.9	C	31.6	D	38.2
14	US 202 & Concord Ave	A	4.6	A	5.0	A	4.4	A	4.9	A	4.4	A	5.0
15	US 202 & Woodrow Ave	A	1.0	A	0.9	A	1.0	A	1.0	A	1.0	A	0.9
16	US 202 & Sharpley Rd	B	12.8	C	23.4	B	13.1	C	20.7	B	12.9	B	18.7
17	US 202 & Fairfax Blvd	C	33.5	E	56.0	D	43.3	D	36.9	D	39.9	C	34.1
18	US 202 & AZ Ent/Fairfax Shopping Ctr	F	85.1	D	54.3	E	70.9	D	47.5	E	66.1	D	40.9
19	US 202 & Powder Mill Rd/Murphy Rd	F	131.7	F	105.9	F	136.3	F	105.6	F	133.3	F	100.9
20	US 202 & Independence Mall	A	6.7	A	8.2	A	6.7	A	8.2	A	6.6	A	8.0
21	US 202 & Foulk Rd	C	22.3	C	20.1	C	27.7	B	15.2	C	26.9	B	16.3
22	US 202 & Augustine Cutoff	B	11.5	A	8.3	A	7.4	B	11.2	A	7.4	B	12.1
Weighted Avg. Intersection Delay (Whole Corridor)			27.0		34.3		25.6		33.1		24.7		29.9

Scenario #1: "By-Right" Land Development Scenario

- 282,000 s.f new retail
- 1,672 new residential units
- 603 net new hotel rooms
- 534,000 s.f. new office space
- Loss of 19,000 s.f. Civic/ Institutional uses



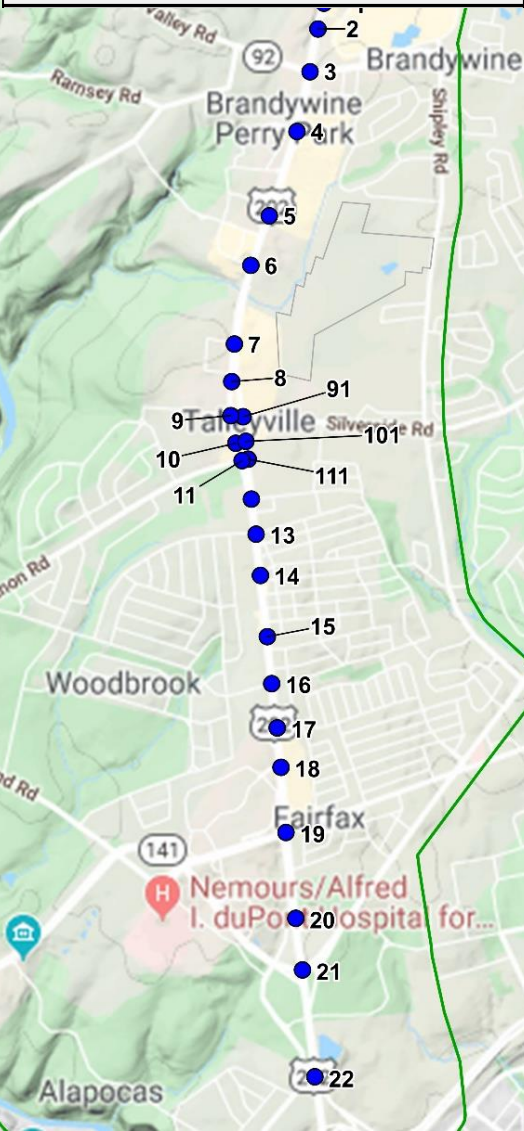
Intersection Delay LOS	
LOS F:	Over 80 Seconds
LOS E:	55-80 Seconds
LOS D:	35-55 Seconds
LOS C+:	Less than 35 Seconds

2050 #2 "Low-Growth" Land Use Comparison to Transportation Improvements

Low-Growth		2050 "Do-Nothing"				2050 Enhanced Vehicle Network				2050 Enhanced Vehicle & Ped Network			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	C	30.3	C	22.8	B	15.8	C	24.0	B	11.6	B	14.4
2	US 202 & Chubb Ent	A	1.4	A	7.7	A	1.6	A	7.4	A	4.8	A	6.7
3	US 202 & SR 92 Naamans Rd	C	34.3	E	63.8	C	33.5	E	55.6	C	32.8	E	57.4
4	US 202 & Concord Mall North	B	10.3	B	18.5	B	10.4	B	20.0	B	10.3	B	17.8
5	US 202 & Concord Mall South	A	2.8	A	6.6	A	3.3	A	6	A	3.0	A	5.8
6	US 202 & Rocky Run Pkwy/Widener U	C	23.4	C	26.4	C	32.4	C	33.4	C	28.8	C	30.3
7	US 202 & Righter Pkwy/Concord Square	C	27.7	D	50.7	C	28.5	E	65.4	C	28.2	D	43.5
8	US 202 SB & NB U-turn	B	14.6	C	28.6	B	14.6	E	64.7	B	14.2	D	46.5
91	US 202 NB & Silverside Rd	C	33.7	E	75.1	C	25.7	E	74.7	C	23.7	E	68.1
9	US 202 SB & Garden of Eden Rd	D	43.8	C	21.6	C	20.7	C	20.5	B	19.3	B	19.4
101	US 202 NB & Brandywine Blvd	A	4.5	E	57.1	A	3.5	E	70.8	A	4.4	C	23.8
10	US 202 SB & Brandywine Blvd	A	2.6	A	4.6	A	2.9	B	14.2	A	4.4	A	5.3
111	US 202 NB & Mt Lebanon Rd	C	22.6	F	96.8	C	23.2	F	83.4	C	22.8	F	84.3
11	US 202 SB & Mt Lebanon Rd	C	32.3	D	46.6	C	32.9	D	41.3	C	30.3	D	47.5
12	US 202 & Prospect Ave	B	18.2	E	60.1	B	11.7	B	16.8	B	11.3	B	15.4
13	US 202 & Whitby Rd/Florence Ave	D	35.0	D	40.3	C	33.1	D	39.4	C	31.9	D	37.8
14	US 202 & Concord Ave	A	4.5	A	5.2	A	4.3	A	5.1	A	4.3	A	5.1
15	US 202 & Woodrow Ave	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0
16	US 202 & Sharpley Rd	B	12.9	C	26.0	B	13.4	C	23.1	B	13.0	B	19.9
17	US 202 & Fairfax Blvd	D	40.8	E	57.6	D	43.7	D	40.2	D	43.4	D	36.3
18	US 202 & AZ Ent/Fairfax Shopping Ctr	F	89.4	E	58.3	E	75.0	D	43.9	E	69.3	D	37.7
19	US 202 & Powder Mill Rd/Murphy Rd	F	131.1	F	111.4	F	136.6	F	111.2	F	133.2	F	103.4
20	US 202 & Independence Mall	A	6.8	A	8.2	A	6.8	A	8.2	A	6.7	A	8.0
21	US 202 & Foulk Rd	C	22.3	C	20.2	C	27.7	B	15.3	C	26.9	B	16.2
22	US 202 & Augustine Cutoff	B	11.9	A	8.0	A	7.5	B	11.0	A	7.5	B	11.9
Weighted Avg. Intersection Delay (Whole Corridor)			27.9		34.7		26.3		34.0		25.4		28.9

Scenario #2: Proposed Zoning - "Low Growth" Land Use Scenario

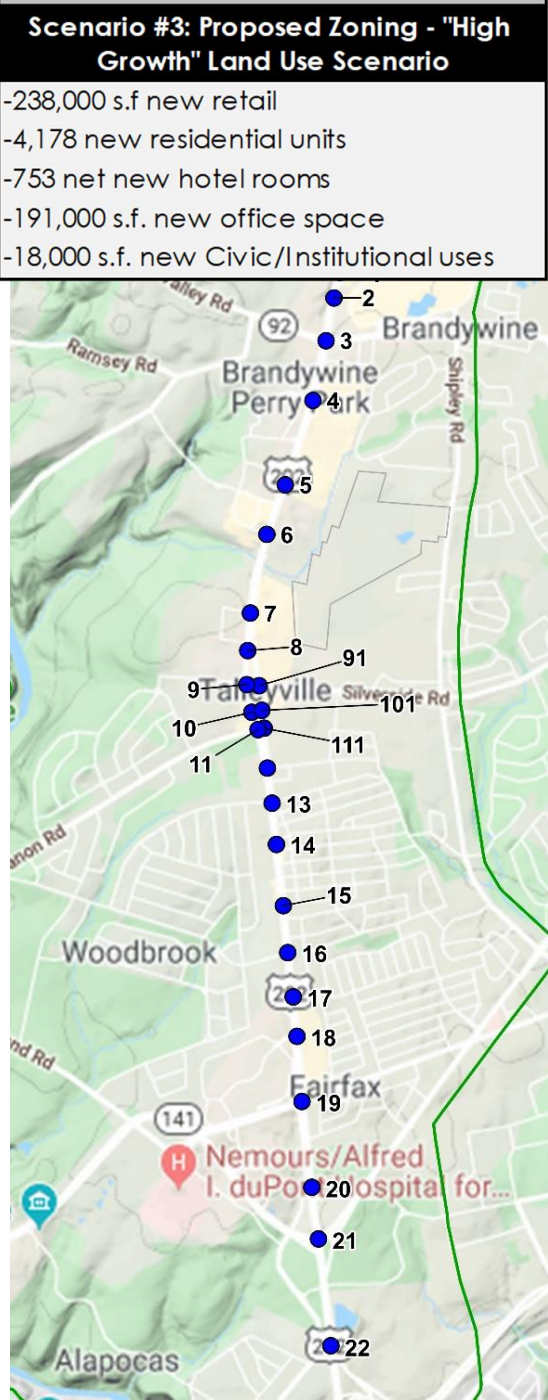
- 204,000 s.f new retail
- 3,248 new residential units
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- 5,500 s.f. new Civic/Institutional uses



Intersection Delay LOS	
LOS F:	Over 80 Seconds
LOS E:	55-80 Seconds
LOS D:	35-55 Seconds
LOS C+:	Less than 35 Seconds

2050 #3 “High-Growth” Land Use Comparison to Transportation Improvements

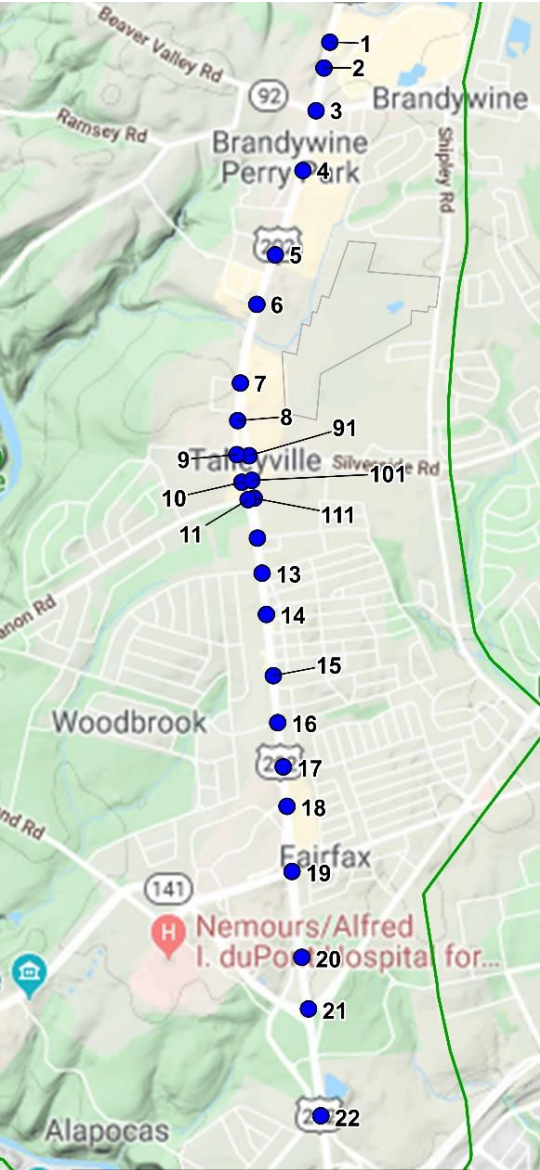
	High Growth	2050 "Do-Nothing"				2050 Enhanced Vehicle Network				2050 Enhanced Vehicle & Ped Network			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	C	26.1	C	24.6	B	17.6	C	26.6	B	12.5	B	15.6
2	US 202 & Chubb Ent	A	1.5	A	8.5	A	1.7	A	7.9	A	5.0	A	7.1
3	US 202 & SR 92 Naamans Rd	D	37.2	E	72.6	D	35.6	E	62.1	C	34.2	E	62.3
4	US 202 & Concord Mall North	B	10.8	B	19.0	B	11.2	C	21.4	B	10.9	B	19.0
5	US 202 & Concord Mall South	A	8.3	B	11.4	A	4.1	A	7.7	A	3.7	A	6.7
6	US 202 & Rocky Run Pkwy/Widener U	D	46.3	D	44.6	D	45.5	D	48.0	D	38.1	D	36.8
7	US 202 & Righter Pkwy/Concord Square	C	28.0	E	70.2	C	28.9	E	76.6	C	28.9	E	66.6
8	US 202 SB & NB U-turn	B	15.8	D	52.1	B	15.8	E	75.5	B	15.0	E	67.3
91	US 202 NB & Silverside Rd	D	44.7	F	91.5	C	28.2	E	77.2	C	25.2	E	69.8
9	US 202 SB & Garden of Eden Rd	E	59.1	C	25.5	C	22.8	C	24.1	C	20.5	C	21.0
101	US 202 NB & Brandywine Blvd	A	5.0	E	59.3	A	3.6	E	70.8	A	4.4	D	54.4
10	US 202 SB & Brandywine Blvd	A	2.7	A	5.0	A	2.8	B	15.1	A	4.3	A	5.3
111	US 202 NB & Mt Lebanon Rd	C	24.5	F	118.9	C	24.8	F	93.0	C	24.1	F	83.6
11	US 202 SB & Mt Lebanon Rd	D	43.0	E	62.5	D	38.5	D	48.9	C	33.3	D	52.6
12	US 202 & Prospect Ave	C	30.0	E	69.5	B	13.2	C	31.2	B	12.7	B	20.0
13	US 202 & Whitby Rd/Florence Ave	D	37.2	D	44.5	D	36.1	D	44.1	C	34.2	D	41.7
14	US 202 & Concord Ave	A	4.7	A	5.5	A	4.5	A	5.4	A	4.4	A	5.4
15	US 202 & Woodrow Ave	A	1.0	A	1.1	A	1.0	A	1.1	A	1.0	A	1.0
16	US 202 & Sharpley Rd	B	13.9	C	32.2	B	13.9	C	27.6	B	13.4	C	22.8
17	US 202 & Fairfax Blvd	D	52.4	E	60.3	D	44.5	D	46.3	D	44.0	D	41.5
18	US 202 & AZ Ent/Fairfax Shopping Ctr	F	94.3	E	66.8	E	79.6	D	48.5	E	73.3	D	41.4
19	US 202 & Powder Mill Rd/Murphy Rd	F	142.1	F	126.1	F	147.4	F	126.8	F	142.3	F	116.8
20	US 202 & Independence Mall	A	7.0	A	8.6	A	7.0	A	8.6	A	6.8	A	8.2
21	US 202 & Foulk Rd	C	22.6	C	20.6	C	28.0	B	15.5	C	27.2	B	16.5
22	US 202 & Augustine Cutoff	B	12.1	A	8.6	A	7.7	B	11.5	A	7.6	B	12.3
Weighted Avg. Intersection Delay (Whole Corridor)			32.0		41.7		28.5		39.0		27.0		34.1



Land use alternatives and transportation improvements comparison

Year 2050 comparison: “Do-Nothing” transportation improvements between land use alternatives

	"Do-Nothing" Transp. Improvements	By - Right Development				Low Growth Development				High Growth Development			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	C	30.8	C	23.7	C	30.3	C	22.8	C	26.1	C	24.6
2	US 202 & Chubb Ent	A	1.4	A	7.4	A	1.4	A	7.7	A	1.5	A	8.5
3	US 202 & SR 92 Naamans Rd	C	34.3	E	66.1	C	34.3	E	63.8	D	37.2	E	72.6
4	US 202 & Concord Mall North	B	10.7	B	17.7	B	10.3	B	18.5	B	10.8	B	19.0
5	US 202 & Concord Mall South	A	1.9	A	5.9	A	2.8	A	6.6	A	8.3	B	11.4
6	US 202 & Rocky Run Pkwy/Widener U	B	16.3	C	26.5	C	23.4	C	26.4	D	46.3	D	44.6
7	US 202 & Righter Pkwy/Concord Square	C	27.2	D	49.2	C	27.7	D	50.7	C	28.0	E	70.2
8	US 202 SB & NB U-turn	B	13.9	D	37.8	B	14.6	C	28.6	B	15.8	D	52.1
91	US 202 NB & Silverside Rd	D	40.7	E	72.3	C	33.7	E	75.1	D	44.7	F	91.5
9	US 202 SB & Garden of Eden Rd	D	40.7	C	21.7	D	43.8	C	21.6	E	59.1	C	25.5
101	US 202 NB & Brandywine Blvd	A	4.8	E	56.2	A	4.5	E	57.1	A	5.0	E	59.3
10	US 202 SB & Brandywine Blvd	A	2.8	A	4.6	A	2.6	A	4.6	A	2.7	A	5.0
111	US 202 NB & Mt Lebanon Rd	C	23.9	F	89.3	C	22.6	F	96.8	C	24.5	F	118.9
11	US 202 SB & Mt Lebanon Rd	C	29.5	D	50.7	C	32.3	D	46.6	D	43.0	E	62.5
12	US 202 & Prospect Ave	B	14.9	E	65.8	B	18.2	E	60.1	C	30.0	E	69.5
13	US 202 & Whitby Rd/Florence Ave	D	35.1	D	39.8	D	35.0	D	40.3	D	37.2	D	44.5
14	US 202 & Concord Ave	A	4.6	A	5.0	A	4.5	A	5.2	A	4.7	A	5.5
15	US 202 & Woodrow Ave	A	1.0	A	0.9	A	1.0	A	1.0	A	1.0	A	1.1
16	US 202 & Sharpley Rd	B	12.8	C	23.4	B	12.9	C	26.0	B	13.9	C	32.2
17	US 202 & Fairfax Blvd	C	33.5	E	56.0	D	40.8	E	57.6	D	52.4	E	60.3
18	US 202 & AZ Ent/Fairfax Shopping Ctr	F	85.1	D	54.3	F	89.4	E	58.3	F	94.3	E	66.8
19	US 202 & Powder Mill Rd/Murphy Rd	F	131.7	F	105.9	F	131.1	F	111.4	F	142.1	F	126.1
20	US 202 & Independence Mall	A	6.7	A	8.2	A	6.8	A	8.2	A	7.0	A	8.6
21	US 202 & Foulk Rd	C	22.3	C	20.1	C	22.3	C	20.2	C	22.6	C	20.6
22	US 202 & Augustine Cutoff	B	11.5	A	8.3	B	11.9	A	8.0	B	12.1	A	8.6
Weighted Avg. Intersection Delay (Whole Corridor)			27.0		34.3		27.9		34.7		32.0		41.7



Intersection Delay LOS

LOS F: Over 80 Seconds

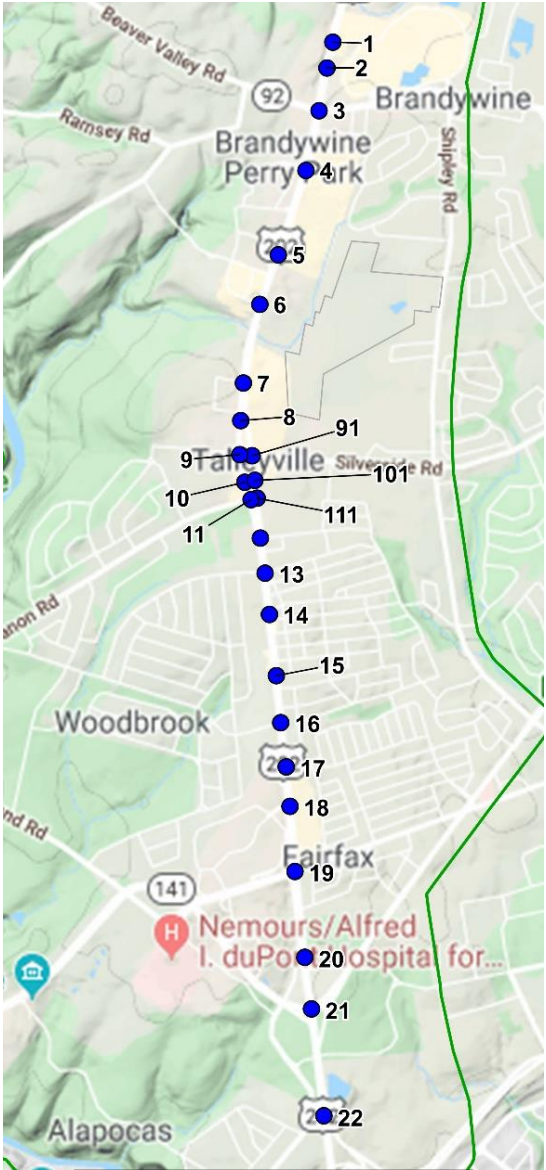
LOS E: 55-80 Seconds

LOS D: 35-55 Seconds

LOS C+: Less than 35 Seconds

Year 2050 comparison: “Enhanced Vehicle Network ” transportation improvements between land use alternatives

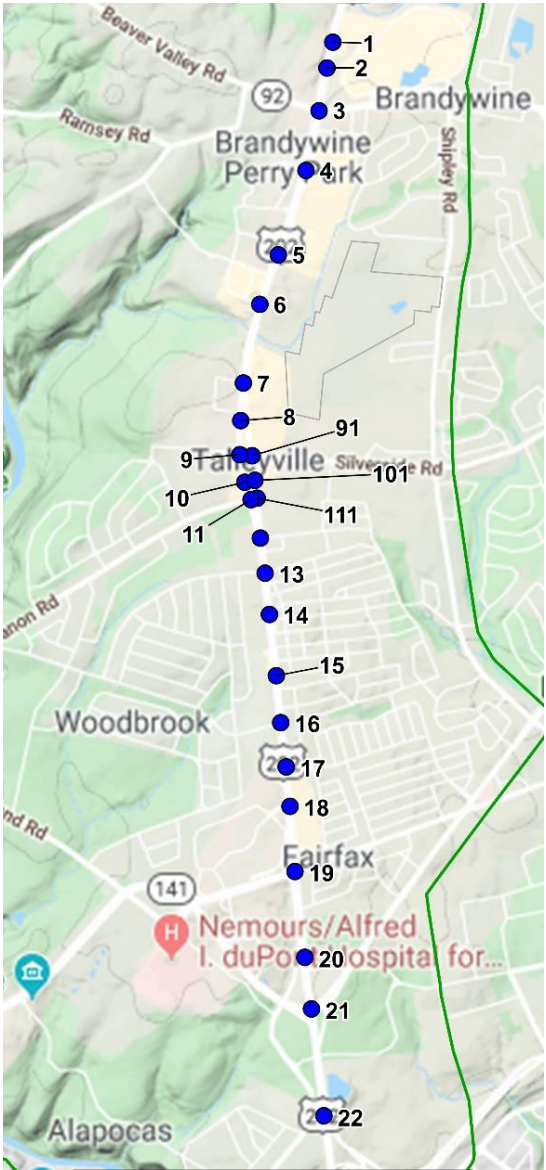
	Enhanced Transportation Network	By - Right Development				Low Growth Development				High Growth Development			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	B	17.4	C	23.8	B	15.8	C	24.0	B	17.6	C	26.6
2	US 202 & Chubb Ent	A	1.6	A	7.1	A	1.6	A	7.4	A	1.7	A	7.9
3	US 202 & SR 92 Naamans Rd	C	33.6	E	58.4	C	33.5	E	55.6	D	35.6	E	62.1
4	US 202 & Concord Mall North	B	10.5	B	17.8	B	10.4	B	20.0	B	11.2	C	21.4
5	US 202 & Concord Mall South	A	2.2	A	5.5	A	3.3	A	6	A	4.1	A	7.7
6	US 202 & Rocky Run Pkwy/Widener U	C	20.5	C	34.1	C	32.4	C	33.4	D	45.5	D	48.0
7	US 202 & Righter Pkwy/Concord Square	C	29.0	E	63.5	C	28.5	E	65.4	C	28.9	E	76.6
8	US 202 SB & NB U-turn	B	13.9	E	75.1	B	14.6	E	64.7	B	15.8	E	75.5
91	US 202 NB & Silverside Rd	C	28.0	E	75.0	C	25.7	E	74.7	C	28.2	E	77.2
9	US 202 SB & Garden of Eden Rd	C	20.8	C	21.8	C	20.7	C	20.5	C	22.8	C	24.1
101	US 202 NB & Brandywine Blvd	A	3.6	D	36.6	A	3.5	E	70.8	A	3.6	E	70.8
10	US 202 SB & Brandywine Blvd	A	2.9	B	14.5	A	2.9	B	14.2	A	2.8	B	15.1
111	US 202 NB & Mt Lebanon Rd	C	23.5	F	84.5	C	23.2	F	83.4	C	24.8	F	93.0
11	US 202 SB & Mt Lebanon Rd	C	30.1	D	44.1	C	32.9	D	41.3	D	38.5	D	48.9
12	US 202 & Prospect Ave	B	11.3	B	17.7	B	11.7	B	16.8	B	13.2	C	31.2
13	US 202 & Whitby Rd/Florence Ave	C	32.8	D	39.9	C	33.1	D	39.4	D	36.1	D	44.1
14	US 202 & Concord Ave	A	4.4	A	4.9	A	4.3	A	5.1	A	4.5	A	5.4
15	US 202 & Woodrow Ave	A	1.0	A	1.0	A	1.0	A	1.0	A	1.0	A	1.1
16	US 202 & Sharpley Rd	B	13.1	C	20.7	B	13.4	C	23.1	B	13.9	C	27.6
17	US 202 & Fairfax Blvd	D	43.3	D	36.9	D	43.7	D	40.2	D	44.5	D	46.3
18	US 202 & AZ Ent/Fairfax Shopping Ctr	E	70.9	D	47.5	E	75.0	D	43.9	E	79.6	D	48.5
19	US 202 & Powder Mill Rd/Murphy Rd	F	136.3	F	105.6	F	136.6	F	111.2	F	147.4	F	126.8
20	US 202 & Independence Mall	A	6.7	A	8.2	A	6.8	A	8.2	A	7.0	A	8.6
21	US 202 & Foulk Rd	C	27.7	B	15.2	C	27.7	B	15.3	C	28.0	B	15.5
22	US 202 & Augustine Cutoff	A	7.4	B	11.2	A	7.5	B	11.0	A	7.7	B	11.5
Weighted Avg. Intersection Delay (Whole Corridor)			25.6		33.1		26.3		34.0		28.5		39.0



Intersection Delay LOS
LOS F: Over 80 Seconds
LOS E: 55-80 Seconds
LOS D: 35-55 Seconds
LOS C+: Less than 35 Seconds

Year 2050 comparison: “Enhanced Vehicle & Enhanced Bike/Ped Network ” transportation improvements between land use alternatives

	Enhanced Transportation Network & Bike Network	By - Right Development				Low Growth Development				High Growth Development			
Int #	Intersection Name	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)	AM LOS	AM Delay (sec.)	PM LOS	PM Delay (sec.)
1	US 202 & Brandywine Pkwy	B	12.5	B	14.7	B	11.6	B	14.4	B	12.5	B	15.6
2	US 202 & Chubb Ent	A	4.9	A	6.6	A	4.8	A	6.7	A	5.0	A	7.1
3	US 202 & SR 92 Naamans Rd	C	32.9	E	60.8	C	32.8	E	57.4	C	34.2	E	62.3
4	US 202 & Concord Mall North	B	10.4	B	16.4	B	10.3	B	17.8	B	10.9	B	19.0
5	US 202 & Concord Mall South	A	2.0	A	5.7	A	3.0	A	5.8	A	3.7	A	6.7
6	US 202 & Rocky Run Pkwy/Widener U	C	20.0	C	30.2	C	28.8	C	30.3	D	38.1	D	36.8
7	US 202 & Righter Pkwy/Concord Square	C	28.7	E	59.5	C	28.2	D	43.5	C	28.9	E	66.6
8	US 202 SB & NB U-turn	B	13.7	E	59.8	B	14.2	D	46.5	B	15.0	E	67.3
91	US 202 NB & Silverside Rd	C	25.5	E	67.9	C	23.7	E	68.1	C	25.2	E	69.8
9	US 202 SB & Garden of Eden Rd	B	19.5	C	20.2	B	19.3	B	19.4	C	20.5	C	21.0
101	US 202 NB & Brandywine Blvd	A	4.4	B	17.9	A	4.4	C	23.8	A	4.4	D	54.4
10	US 202 SB & Brandywine Blvd	A	4.2	A	5.4	A	4.4	A	5.3	A	4.3	A	5.3
111	US 202 NB & Mt Lebanon Rd	C	23.0	F	85.1	C	22.8	F	84.3	C	24.1	F	83.6
11	US 202 SB & Mt Lebanon Rd	C	28.5	D	49.4	C	30.3	D	47.5	C	33.3	D	52.6
12	US 202 & Prospect Ave	B	11.0	B	15.6	B	11.3	B	15.4	B	12.7	B	20.0
13	US 202 & Whitby Rd/Florence Ave	C	31.6	D	38.2	C	31.9	D	37.8	C	34.2	D	41.7
14	US 202 & Concord Ave	A	4.4	A	5.0	A	4.3	A	5.1	A	4.4	A	5.4
15	US 202 & Woodrow Ave	A	1.0	A	0.9	A	1.0	A	1.0	A	1.0	A	1.0
16	US 202 & Sharpley Rd	B	12.9	B	18.7	B	13.0	B	19.9	B	13.4	C	22.8
17	US 202 & Fairfax Blvd	D	39.9	C	34.1	D	43.4	D	36.3	D	44.0	D	41.5
18	US 202 & AZ Ent/Fairfax Shopping Ctr	E	66.1	D	40.9	E	69.3	D	37.7	E	73.3	D	41.4
19	US 202 & Powder Mill Rd/Murphy Rd	F	133.3	F	100.9	F	133.2	F	103.4	F	142.3	F	116.8
20	US 202 & Independence Mall	A	6.6	A	8.0	A	6.7	A	8.0	A	6.8	A	8.2
21	US 202 & Foulk Rd	C	26.9	B	16.3	C	26.9	B	16.2	C	27.2	B	16.5
22	US 202 & Augustine Cutoff	A	7.4	B	12.1	A	7.5	B	11.9	A	7.6	B	12.3
Weighted Avg. Intersection Delay (Whole Corridor)			24.7		29.9		25.4		28.9		27.0		34.1



Intersection Delay LOS

LOS F: Over 80 Seconds

LOS E: 55-80 Seconds

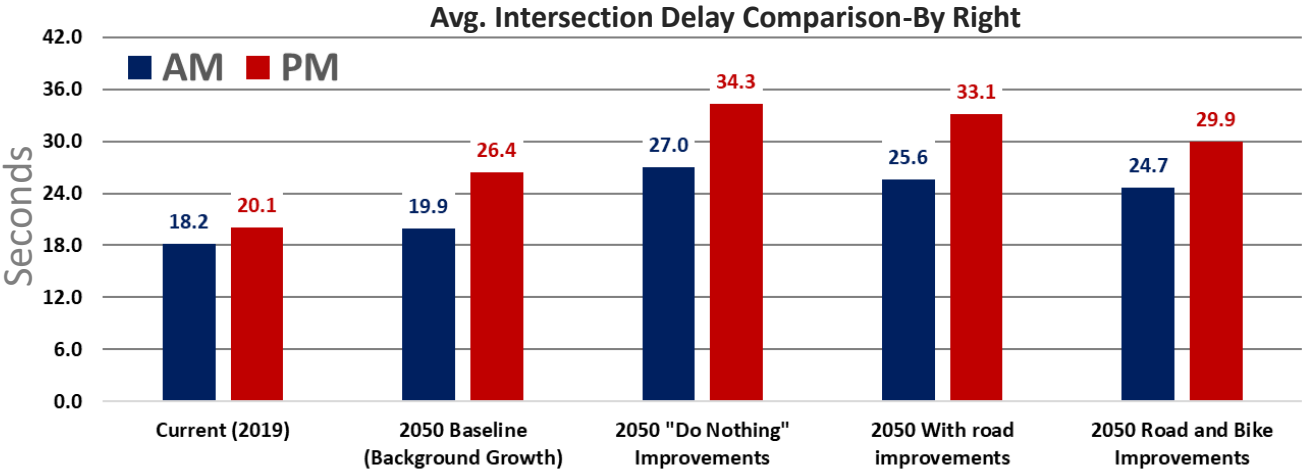
LOS D: 35-55 Seconds

LOS C+: Less than 35 Seconds

“By-Right” Development

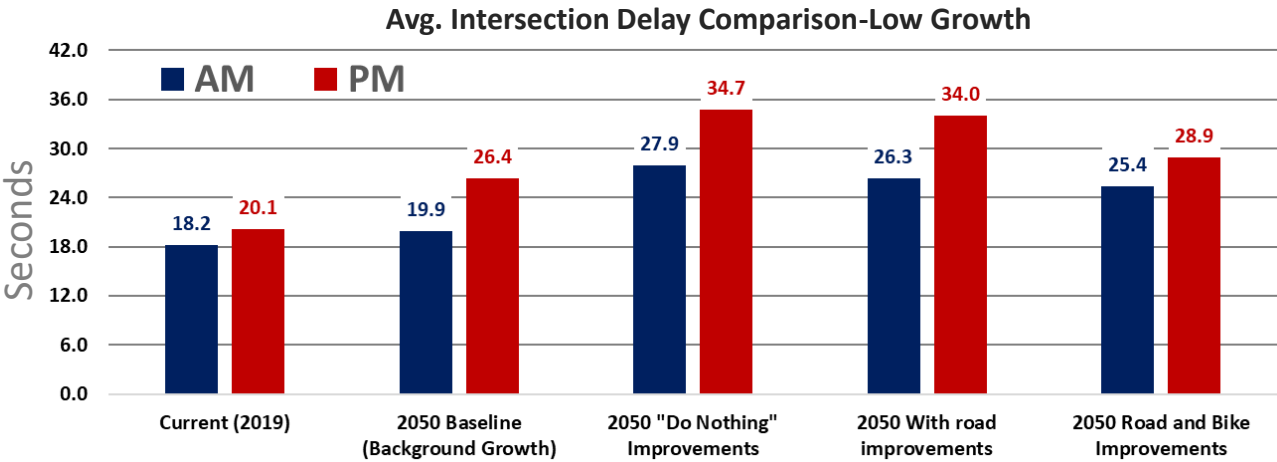
By-Right Development Scenario	AM Avg. Delay (seconds)	PM Avg. Delay (seconds)
Current (2019)	18.2	20.1
2050 Baseline (Background Growth)	19.9	26.4
2050 "Do Nothing" Improvements	27.0	34.3
2050 With road improvements	25.6	33.1
2050 Road and Bike Improvements	24.7	29.9

Corridor-wide Comparison Intersection Delay averages



“Low Growth” Development

Low Growth Development Scenario	AM Avg. Delay (seconds)	PM Avg. Delay (seconds)
Current (2019)	18.2	20.1
2050 Baseline (Background Growth)	19.9	26.4
2050 "Do Nothing" Improvements	27.9	34.7
2050 With road improvements	26.3	34.0
2050 Road and Bike Improvements	25.4	28.9



“High Growth” Development

High Growth Development Scenario	AM Avg. Delay (seconds)	PM Avg. Delay (seconds)
Current (2019)	18.2	20.1
2050 Baseline (Background Growth)	19.9	26.4
2050 "Do Nothing" Improvements	32.0	41.7
2050 With road improvements	28.5	39.0
2050 Road and Bike Improvements	27.0	34.1

