

MEMORANDUM

Date:	December 4, 2022	TG:	1.21037.00
To:	Ali Shasti, City of Seatac		
From:	Patrick Lynch, AICP, Transpo Group Paul Sharman, PE, Transpo Group		
Subject:	2022 Annual Transportation Concurrency Report		

This memorandum serves as the Annual Concurrency Report for the City of SeaTac. The 2022 Annual Concurrency Report provides the current state of the City's transportation concurrency program. The following items are addressed in the Annual Concurrency Report:

- **Background.** Provides a brief background on the City's Concurrency Program.
- **Development Summary.** A summary of development activity accounted for in the transportation concurrency program since the development of the concurrency program update in July 2019.
- **System Improvements.** A summary of the roadway, intersection and multimodal improvement projects that have been constructed since the development of the concurrency program in 2019.
- **Concurrency Corridor Travel Speeds.** A summary of the Spring 2022 roadway travel speeds compared to 2019 levels.
- **Remaining Capacity.** Status of trips available on each concurrency corridor based on updated travel speed data.

Background

The following topics provide a brief background on the City's Concurrency Program.

What is concurrency?

Concurrency is a tool to ensure that transportation facilities are constructed as growth occurs (one happens *concurrent* with the other). Concurrency provides a link between land use, transportation, and public investment.

What is the purpose of a concurrency program?

In general, if land use development and transportation infrastructure investments occur in a timeframe and at locations consistent with the Comprehensive Plan then concurrency would, in theory, always be achieved. The concurrency program is implemented by agencies to understand if the adopted LOS standards are being met "concurrent" with development. Concurrency programs in practice are used by agencies to monitor the current state of the transportation system on a system-wide basis.

What metrics does the City use to monitor concurrency?

The City of SeaTac evaluates corridor travel time to understand traffic delays. The City also uses a 'percent complete' evaluation of the planned pedestrian and bicycle network to estimate multimodal system connectivity. Both metrics are used to estimate the remaining PM peak hour trip capacity on City corridors.

Development Summary

The concurrency evaluation analyzes six years in the future (i.e., the year 2028 in this instance) to capture developments already approved and transportation projects that are funded and will be completed within that timeframe. The developments that have been accounted for since the development of the Concurrency program in 2019 are listed in Table 1.

Table 1. Summary of Developments Being Monitored

Pipeline Development	Type and Size	Net New PM Peak Hour Trips
Staybridge Even Hotel	255 room hotel, 2,500 sf restaurant	164
Victoria Townhomes	9 townhomes	6
Mayer Court	87 mid-rise apartments, 3,575 sf shopping center	83
76 rebuilt	6,893 commercial	165
GMC TIME Apartments	289 mid-rise apts, 2,635 sf shopping center	128
Maywood Elementary	300,000 sf warehouse	67
2929 Multifamily	108 mid-rise apts	48
SeaTac Airport Hotel & Apartments	185 mid-rise apts, 198 room hotel	313
Park n Jet Parking Lot	8 single family homes	8
SeaTac Apartments	247 multifamily homes	102
Lakhi SP	2 single family homes	2
Chang SP	1 single family home	1
Trinh Short Plat	1 single family home	1
Summit Service Sta	109 single family homes	108
Homes2Suites	188 room hotel	32
SeaTac Self Storage	224,000 sf mini warehouse	38
Candlewood Hotel	88 room hotel	53
TOTAL TRIPS GENERATED		1,126

Source: City of SeaTac, 2022

The location of the developments is shown in Figure 1.

LEGEND

Development Sites

- Completed
- Construction
- Planning
- Waterbodies
- Park or Open Space
- City Limits

Map of Seattle, Washington, showing development sites categorized by status: Completed (green circle), Construction (orange circle), and Planning (blue circle). The map includes major highways (I-5, I-90, SR-520), city limits, and various landmarks like the University of Washington and the Seattle-Tacoma International Airport. A legend in the bottom left corner defines the symbols and categories. A scale bar in the bottom right corner indicates distances up to 1 mile.

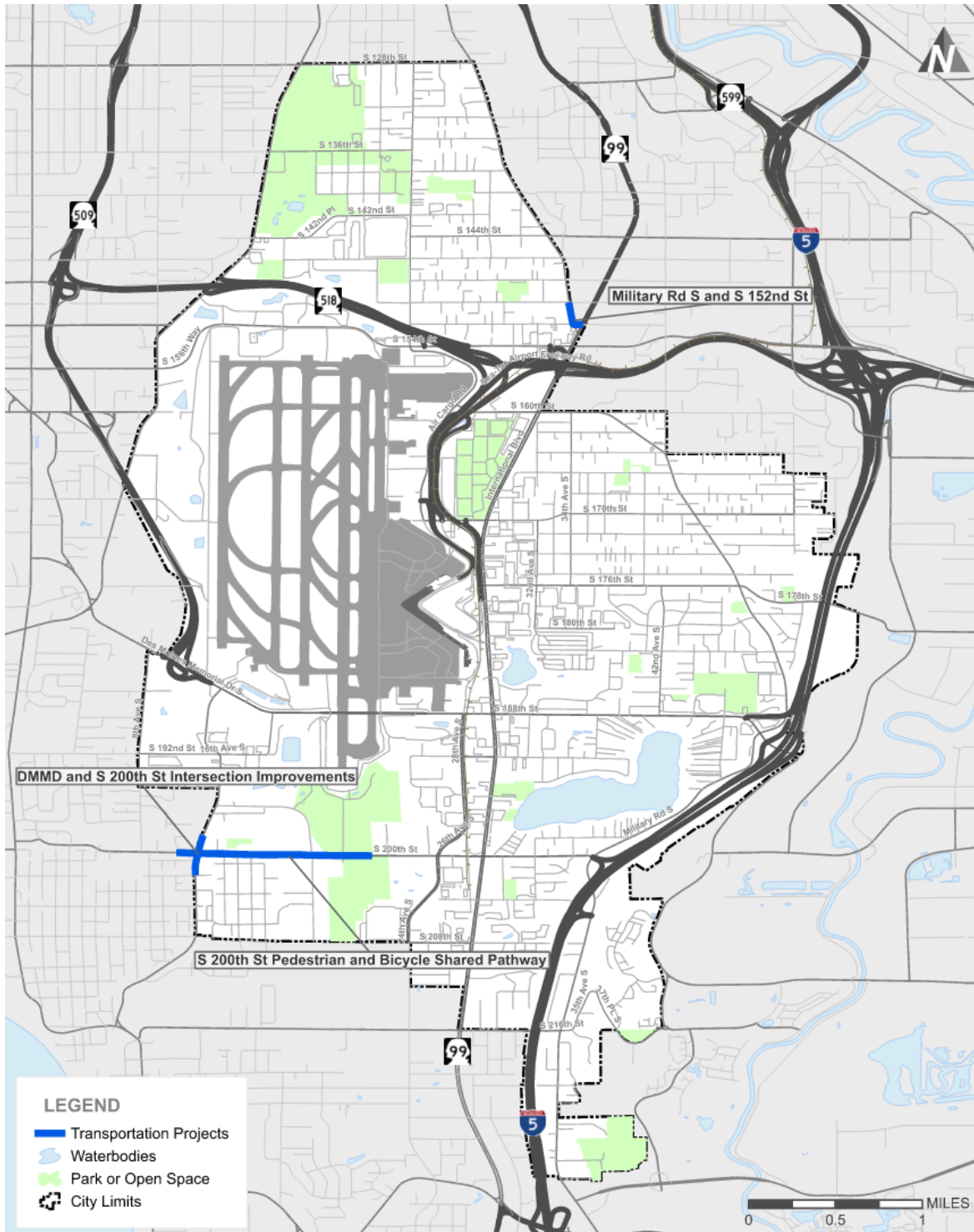
System Improvements

Since 2019, the City of SeaTac has completed construction on three transportation improvement projects. These projects are summarized as follows:

1. **S 200th St Pedestrian and Bicycle Shared Pathway** - This project will design and construct approximately 3,500 lineal feet of 10ft wide shared pathway (or sidewalk and bike lane) from Des Moines Memorial Drive S to the Des Moines Creek Trailhead. This project will improve pedestrian connectivity to the Angle Lake light rail station. Des Moines Memorial Drive / South 200th Street Intersection Improvements
2. **Des Moines Memorial Drive and South 200th Street Intersection** - This project widened the roadway to provide left turn lanes on all legs, provided for a right turn lane on the east leg, and construct a traffic signal in partnership with the City of Des Moines.
3. **Military Rd S and S 152nd St** - This project improves a portion of the 154th Street Light Rail Station area. It includes roadway widening, intersection improvements, pavement overlay, sidewalks, storm drainage, street lighting, undergrounding aerial utilities, and landscaping.

These projects have added additional roadway capacity for vehicle throughput on three concurrency corridors: Des Moines Memorial Drive, South 200th Street and Military Road. The South 200th Street shared bicycle and pedestrian pathway has added an additional 173 multimodal trip credits to the transportation system. These system improvements are shown on Figure 2.

Figure 2 - Transportation System Improvements since 2019



Concurrency Corridor Travel Speeds

Under the Washington State Growth Management Act, local jurisdictions have the discretion in how they define their level of service standards and how to address transportation concurrency within their growth plans, policies, regulations, and permit systems. As part of the requirement to develop a comprehensive plan, jurisdictions are required to establish LOS standards for transportation arterials.

Corridor LOS Methodology

For the purposes of tracking concurrency, the City of SeaTac has identified the weekday PM peak hour travel speeds along key corridor segments as being critical to maintaining the adequacy of its transportation system. Corridor level of service is based on average travel speed through a corridor, which factor the total travel time and delays at the intersections within and the end of each segment. The minimum average travel speed for each corridor is LOS E based on parameters for the Urban Street Class (Class IV) per the latest edition of the Highway Capacity Manual (HCM). Availability of vehicle trips is based on the minimum average travel speeds in these corridors during the PM peak period (4-6pm).

Table 2 summarizes the corridor travel speeds during the PM peak period for each concurrency corridor in Spring 2022 compared to Spring 2019 (the time of the last concurrency update). Travel speeds in 2022 were generally higher than 2019 speeds. This may be a result of the decreased travel during the PM peak associated with COVID-19 related travel pattern changes.

Table 2. 2022 vs 2019 PM Peak Period Corridor Speeds

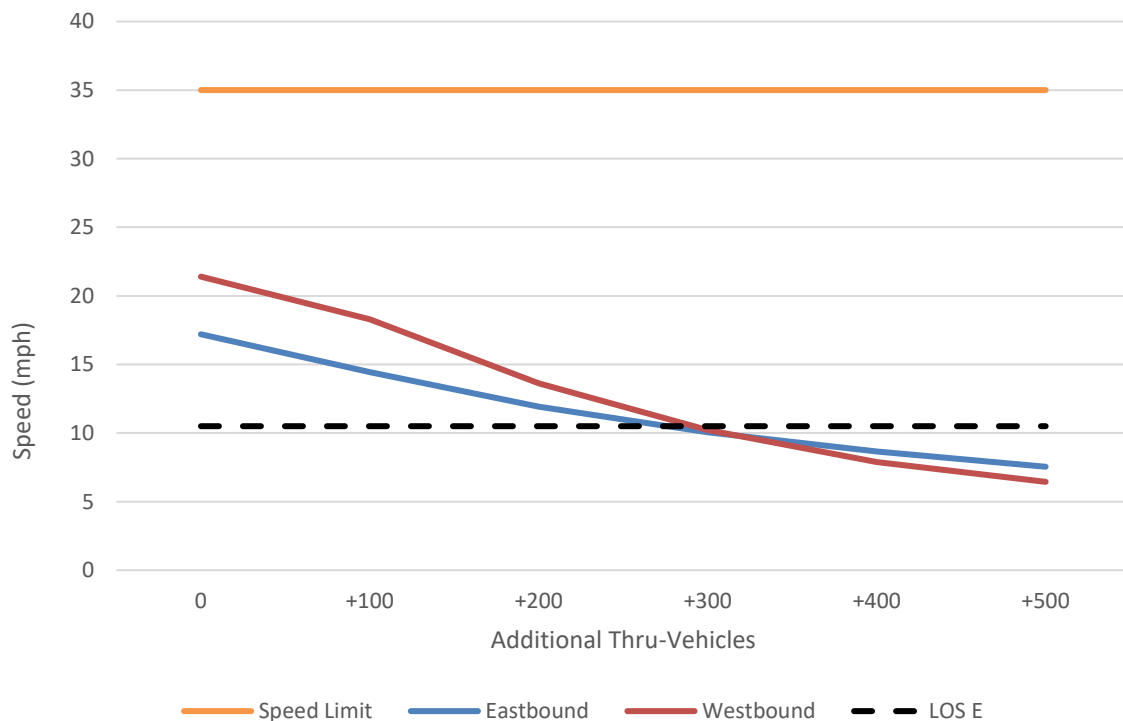
ID	Corridor Name	LOS Stand ard	Minimum Average Travel Speed (mph) ²	Spring 2019 Speeds (mph)		Spring 2022 Speeds (mph)		2022-2019	
				Northbound/ Eastbound	Southbound/ Westbound	NB / EB	SB / WB	NB/EB	SB/WB
Northern Corridors									
1	S 128th Street	E	11	21.5	24.8	25.4	23.5	+ 3.9	-1.3
2	Des Moines Memorial Drive	E	11	28.4	25.8	29.1	23.5	+ 0.7	-2.3
3	Military Road S	E	11	24.7	24.1	25.2	19.6	+0.5	-4.5
4	S 154th Street	E	11	27.6	26.6	27	28.5	-0.6	+1.9
5	S 144th Street	E	9	19.1	18.4	25	24.9	+5.9	+6.5
6	S 152nd Street	E	8	16.8	16.8	21.9	22.7	+5.1	+5.9
Central Corridors									
7	International Boulevard ³	E	12	20.3	22.2	21.6	24.5	+1.3	+2.3
8	Military Road S	E	11	23.5	22.1	26.9	24.7	+3.4	+2.6
9	S 176th Street	E	9	23.5	22.1	21.9	22.9	-1.6	+0.8
10	S 170th Street	E	9	16.8	15.5	22.4	21.2	+5.6	+5.7
11	34th Avenue S	E	9	N/A	N/A	N/A	N/A		
Southern Corridors									
12	S 188th Street	E	11	25.9	31.6	23.4	25.3	-2.5	-6.3
13	Des Moines Memorial Drive	E	11	27.3	22.7	27.7	26.6	+0.4	+3.9
14	24/26/28th Avenue S	E	11	21.6	31.3	24.8	31.2	+3.2	-0.1
15	International Boulevard ³	E	12	23.2	22.2	26.3	25	+3.1	+2.8
16	Military Road S	E	11	23.9	23.9	27.4	25.9	+3.5	+2
17	S 200th Street	E	11	14.9	21.3	17.2	21.4	+2.3	+0.1

Source: Transpo Group, 2022

Remaining Capacity

The remaining capacity along each corridor was estimated by the creation of a traffic operations model using Synchro software. Additional trips were added along the corridor and overall intersection delay was measured along the corridor in an iterative process to plot the relationship of delays (or speeds) and traffic volumes. These delays were used to estimate corridor speed decreases. A graph of speed vs additional trips was created for each corridor, called a “Speed Curve.” These speed curves are used to estimate the remaining trips available. A sample corridor speed curve is shown in Figure 3.

Figure 3 - Sample Speed Curve for S 200th St



In addition to the vehicle trips available, an estimate of the non-motorized trip credit is calculated based on the system completeness of the pedestrian and bicycle networks outlined within the 2035 Transportation Plan within the Comprehensive Plan. The latest pedestrian and bicycle network GIS layers were used to estimate the additional sidewalk and bicycle infrastructure constructed since 2019. Additional trip credits are assigned to roadways that have added multimodal infrastructure. Once the number of trips that each corridor can support is calculated, the number of trips expected on each roadway due to the pipeline developments (see Table 1) is subtracted. If the resulting trip number on each corridor is greater than zero, then there are trips remaining, and concurrency is met. Table 3 summarizes the remaining trips available on each concurrency corridor.

As all corridors currently have sufficient trips available, no concurrency issues are identified. The concurrency guidelines suggest new traffic counts are collected when the number of trips available falls below 50.

Table 3. Remaining Trips Available for 2022 Concurrency

ID	Corridor Name	2019 Peak Hour Traffic Volumes (both directions)	Remaining Capacity (Trips Available)	
			Northbound/ Eastbound	Southbound/ Westbound
Northern Corridors				
1	S 128th Street	~500	186	1,110
2	Des Moines Memorial Drive	~1,000	410	614
3	Military Road S	~500	629	425
4	S 154th Street	~800	541	1,028
5	S 144th Street	~300	421	368
6	S 152nd Street	~250	307	361
Central Corridors				
7	International Boulevard ¹	~1,700	1,053	605
8	Military Road S	~1,150	508	353
9	S 176th Street	~700	546	762
10	S 170th Street	~250	700	610
11	34th Avenue S	~200	678	668
Southern Corridors				
12	S 188th Street	~2,100	567	356
13	Des Moines Memorial Drive	~1,400	679	565
14	24/26/28th Avenue S	~1,100	1,681	881
15	International Boulevard ¹	~2,250	941	912
16	Military Road S	~1,300	467	398
17	S 200th Street	~1,450	416	431

Source: Transpo Group, 2022

1. International Boulevard is exempt from concurrency. Corridor trips available are monitored for tracking purposes only.