

## **The concurrency ratio system**

### **An auto oriented plan based concurrency method**

Summary: A new concurrency system should be simple to administer and understand. It should impact development when the pace of trips being added to the network through new development is not keeping pace with construction of a network to accommodate those trips. The concurrency ratio compares the amount of new trips with the completeness of the network. If the ratio is too high concurrency is triggered.

The Transportation Commission is looking for a way to improve Concurrency. The idea was not to adjust the existing system, but to rebuild a new system that has as many of the following attributes as possible:

- Concurrency should be a broad tool which gives an overall view of capacity for trips as opposed to a very detailed project level tool.
- Concurrency should not be counted on to construct a certain amount of projects or generate funds
- For road/street concurrency our acceptable level of service is driven primarily by the amount of funds available, and the acceptable network. There is some minimum level of service that must be maintained however.
- Concurrency should be flexible, allowing us to approve desirable projects even if it means that concurrency is “out of whack” for a short time.
- Moratoria are not desirable
- The concurrency system needs to give a yes or no answer
- Options for passing concurrency should be given to the developer
- The Comprehensive Plan should drive Concurrency rather than Concurrency driving the Plan.
- Concurrency should be multimodal and recognize the value of other modes
- Concurrency tests are easy to administer
- Principles behind the tests are easy to understand. Policy decisions that structure the types of standards to be created are well documented.
- The results of concurrency are easy to predict; easy for participants to understand.
- Its not how you measure it, its where you set the standard.
- All other things being equal, it would be helpful to use systems similar to those of our neighboring cities.

At their last study-session, Council agreed with the course the Commission wanted to take.

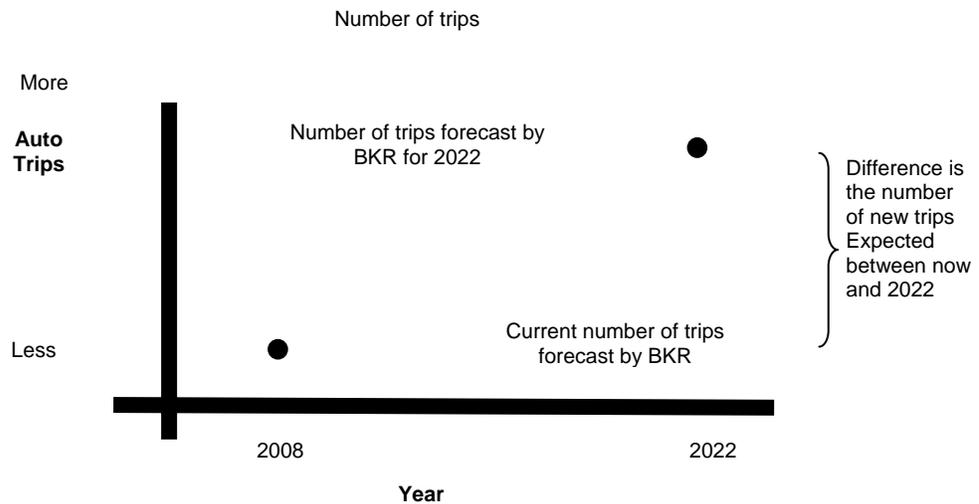
A revised concurrency system is outlined below. It's advantages include that it's plan based, as well as simple to use and explain; it meets most of the goals that the TC has for a concurrency system. The major drawback is that it is auto based and not directly integrated with other modes.

The core principle of the system is as follows: we have agreed to a level of service based on our build out year of 2022. We formulated a 2022 land use, and a 2022 network that resulted in an acceptable level of service. Concurrency's job is to make sure that we are allowing the amount of trips that we planned for, that we are building the 2022 network and that we are doing each at a pace that is balanced; development is occurring at about the same rate that the network is being constructed.

Specifically, we compare the number of trips from new development to the fraction of the 2022 network, that has been built.

Therefore, on the trip side:

- We compute the average number of trips that would occur each year between now and 2022 if all the land use planned for in 2022 was built. Let's say that there is a total of 6000 trips which is an average of 428 trips per year.

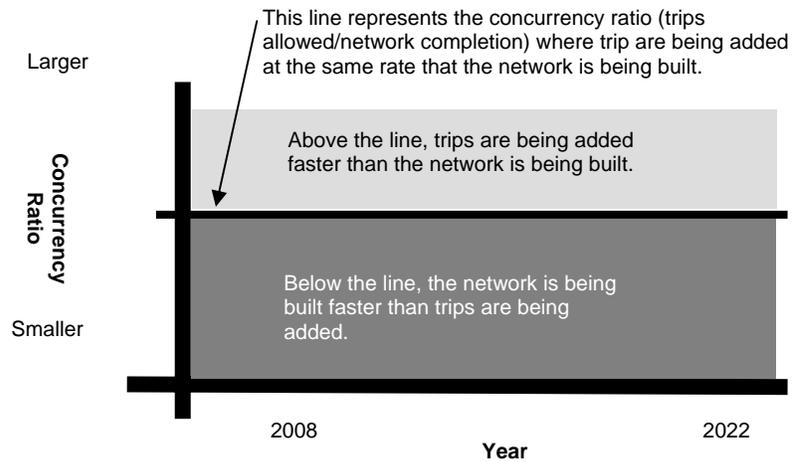


And on the network side:

- There are 12 projects that need to be built between now and 2022 in order to accommodate these new trips at the adopted level of service. If all 12 projects need to be 100% complete by 2022 that means there are 12 x 100 or 1200 "completion points" that must be accomplished. In order to achieve 1200 completion points between 2008 and 2022, an average of 71 points must be built each year. This is the equivalent of 71% of a project being completed each year.

If trips and projects were evenly balanced, the ratio of new trips to completion units would be 428/71 or about 6. This number is the "concurrency ratio". If the actual ratio is higher than 6

trips are being added faster than the network is being constructed and a ratio less than 6 indicates that capacity is being built faster than trips are being added.

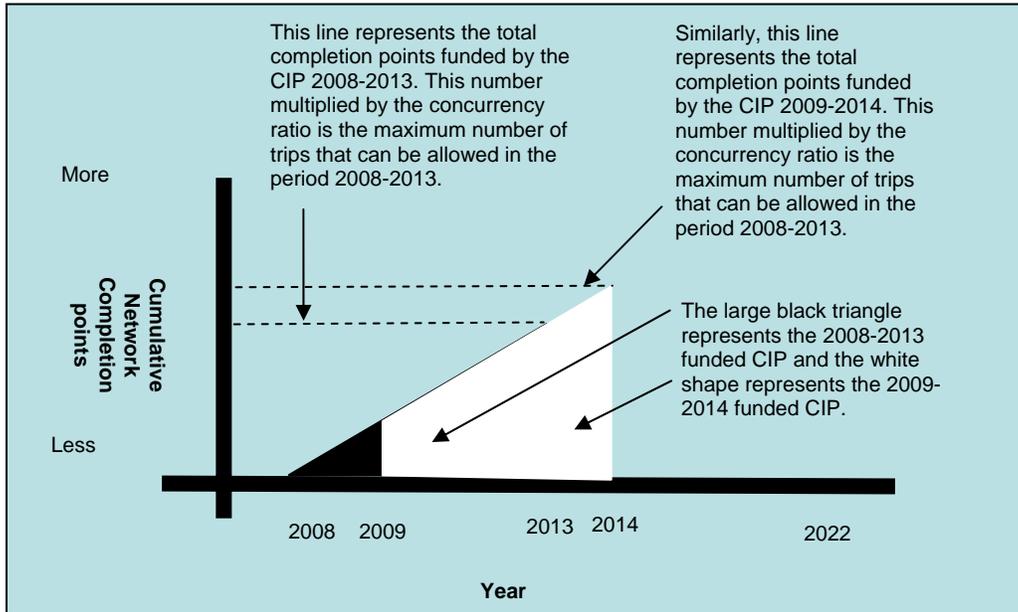


In order to compute the actual concurrency ratio (as opposed to the ideal ratio described above) we need to know the number of new trips that have been permitted and the network completion status. By tracking the cumulative number of new trips from each development the trip number can be obtained. The network completion number is determined once a year by evaluating the completion status of each of the 12 projects necessary to complete the network. This completion status could be computed by determining what fraction of the project budget has been spent, but this measure does not have to be used. Accomplishment of milestones, progress with respect to time or other measures of effectiveness could be used instead. The table on Page 5 shows how completion points would be accumulated based on the proposed funded CIP and using budget as the measure of completeness.

The system could be applied as follows:

1. The funded CIP shows that at the end of the next six years, 557 completion points will be have been amassed.
2. Multiply 557 by the concurrency ratio to get the number of trips that are allowed by new development in next 6 years.
3. Keep track of development trips as they come in. As long as they are less than the total number computed in 2, concurrency is passed.
4. The number of trips allowed increases on a rolling 6 year basis. At the end of 2008 for example we look at the number of completion points that will be added in 2014 and the number of allowed trips is increased accordingly.
5. Public Works would be required to report the completion status of each key project at the end of each year, the number of trips that has been approved and the status of the concurrency ratio. The purpose of this report is to allow changes to network, land use or level of service in advance of coming close to the concurrency ratio being exceeded.

6. If concurrency is not passed, developers could take steps to increase the completion of the network.
7. Development that occurs over multiple years would be accounted for by keeping track of the year that the trips are forecast to occur. The works with the six year concepts in steps 1-4.



The system would be recalibrated every two years when the CIP is rewritten. An annual report would document traffic conditions at individual intersections and document how development activity and project construction are proceeding along with forecasts of trends. The Comp Plan is scheduled for a major overhaul in or before 2012 and the 2022 target year land use and network will be revised. This will allow a chance to correct the direction in which we are headed if needed.

Note that this method is compatible with our existing level of service but it is also compatible with other level of service standards. This unlinks us from the "1.4" standard. That standard has been criticized in the past because it is hard to understand and has a vague physical meaning.

Again, the main drawback to this system is the fact that it is not multimodal. The Commission was hopeful that it could devise a concurrency system that encouraged and accounted for improvements in non-motorized system completion, but this has so far proven to be an elusive goal.

July 20, 2007

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		Year														
Project		Prior	2008		2009		2010		2011		2012		2013		Future	
CIP No.	Description		Funding	completion	Funding	completion	Funding	completion	Funding	completion	Funding	completion	Funding	completion		Total Project Cost
ST 0057	NE 120th St. Road Extension (east), Slater Ave. NE to 124th Ave. NE	\$ 609,000	\$1,000,000	20%	\$ 560,000	27%		27%		27%	\$ 1,400,500	44%	\$ 4,546,900	100%	\$ -	\$ 8,116,400
ST 0058	NE 132nd St. Road Improvement, 100th Ave. NE to 116th Ave. NE (2/3LN) (to 132nd Ave NE 5 LN)	\$ 200,000		0%		0%		0%		0%	\$ 157,300	1%	\$ 881,200	3%	\$ 44,000,000	\$ 45,238,500
ST 0059	124th Ave. NE Road Improvement, NE 116th St. to NE 124th St. (5 ln)	\$ 857,500	\$ 900,000	26%	\$ 895,000	39%		39%	\$ 4,179,600	100%		100%		100%	\$ 1,000	\$ 6,833,100
ST 0063	120th Ave. NE Road Improvement, Totem Lake Blvd. to NE 132 St. (NE 128th St to NE 132nd St)	\$ -	\$ 200,000	2%	\$ 896,000	9%	\$ 1,881,600	25%	\$ 2,388,300	46%	\$ 4,648,200	85%	\$ 1,762,300	100%	\$ -	\$ 11,776,400
TR 0056	NE 85th St. HOV Queue Bypass @ I-405, east to southbound	\$ -		0%		0%		0%		0%		0%		0%	\$ 746,000	\$ 746,000
TR 0057	NE 124th St. HOV Queue Bypass @ I-405, east to southbound	\$ -		0%		0%		0%		0%		0%		0%	\$ 1,530,000	\$ 1,530,000
TR 0075	NE 124th St. / I-405 Queue bypass WB to NB	\$ -		0%		0%		0%		0%		0%		0%	\$ 1,132,000	\$ 1,132,000
TR 0083	100th Avenue NE/NE 132nd Street	\$ -		0%		0%		0%		0%	\$ 1,683,600	70%	\$ 713,700	100%	\$ -	\$ 2,397,300
TR 0084	100th Avenue NE/NE 124th Street	\$ -		0%		0%		0%		0%		0%		0%	\$ 1,980,000	\$ 1,980,000
TR 0085	NE 68th Street/108th Ave Add WB RT lane	\$ 40,000	\$ 610,000	49%	\$ 672,000	100%		100%		100%		100%		100%	\$ -	\$ 1,322,000
TR 0086	NE 70th Street/132nd Ave NE	\$ -		0%		0%		0%		0%		0%	\$ 528,700	24%	\$ 1,670,000	\$ 2,198,700
TR 0088	NE 85th Street/120th Ave NE	\$ -		0%		0%		0%		0%		0%	\$ 528,700	30%	\$ 1,236,000	\$ 1,764,700
			<b>Cumulative Completion Points</b>	<b>97</b>		<b>175</b>		<b>191</b>		<b>273</b>		<b>400</b>		<b>557</b>	\$ 52,295,000	\$ 85,035,100