KIRKLAND 2035
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CONCURRENCY TEST

Kirkland's "worst" intersection isn't all that bad. **Page 4**

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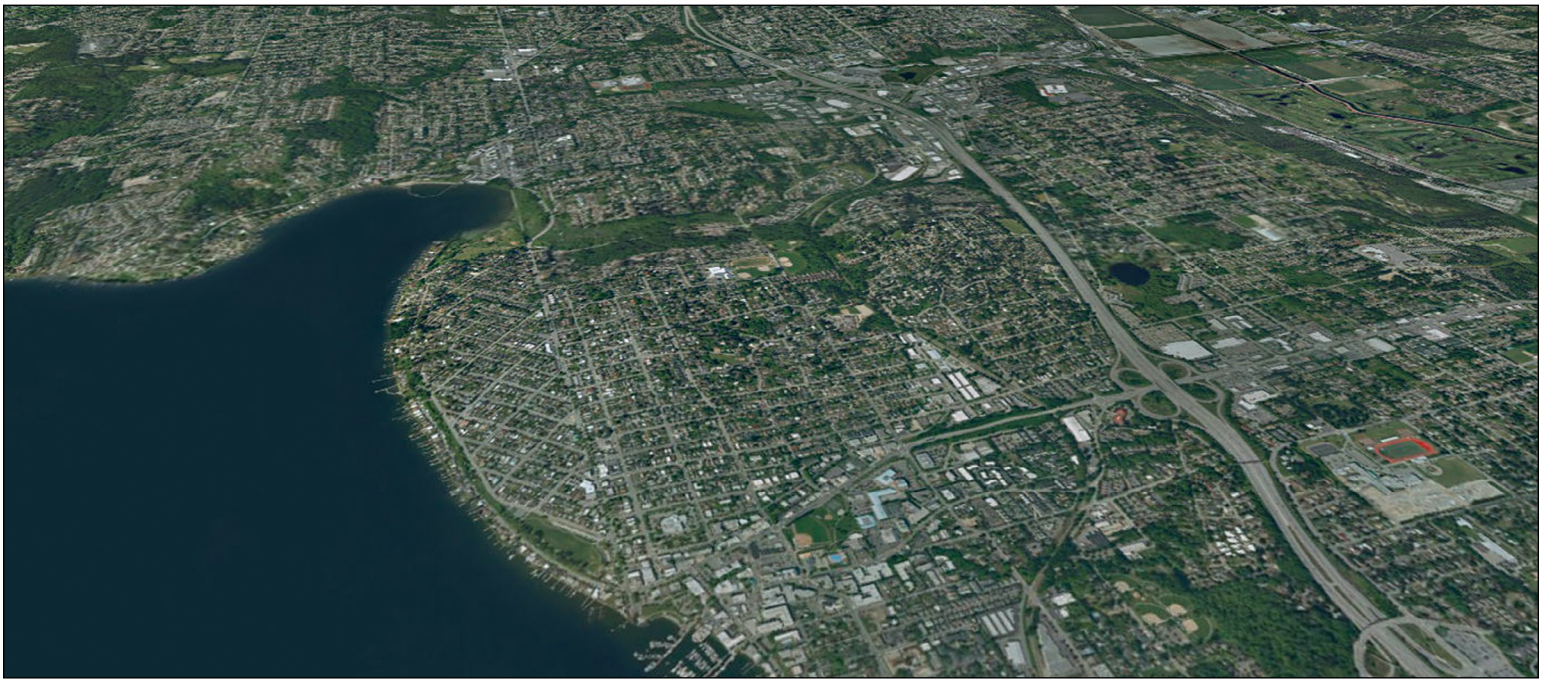
ABOUT GROWTH

CITY OF KIRKLAND WASHINGTON

A CONTINUING REPORT ON THE 2035 COMPREHENSIVE PLAN

"With limited resources, it becomes a question of how much can you tolerate and how much can you afford."
—THANG NGUYEN, *City of Kirkland Transportation Engineer*

Do we concur?



An aerial view (looking northeast) of Kirkland shows the basics of the City: land-use and transportation. Concurrency is what defines and describes the relationship between these two basic responsibilities of the City of Kirkland.

Back in 2004, Kirkland's Transportation Commission had to pick a number. The number they chose would define one of the City's most fundamental relationships: The relationship between development and transportation infrastructure; between the places where people go—housing, shopping centers, work sites—and the infrastructure that helps get them there—roads, turn lanes, traffic signals.

The Growth Management Act has a word for that relationship: "concurrency."

Maintaining concurrency is one of the Growth Management Act's 13 goals.

Defining it, however, is up to the individual City. The way Kirkland defines it accounts almost exclusively for automobile traffic at signalized intersections. The number of people riding bikes or walking doesn't figure in.

This, however, will likely change by 2015.

Kirkland's Transportation Commission is currently devising a proposal for a concurrency metric that would include all of the City's traffic—including bicycles, buses and pedestrians. This could influence the type of transportation projects Kirkland funds

TO LEARN MORE

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in the future. It could also improve travel efficiency for bikes, buses and pedestrians, which is part of the City Council's official goal for balancing Kirkland's transportation choices.

Concurrency, the Kirkland way

Goals, of course, need measures. And in 1992, when the Growth Management Act required cities throughout the state to come up with their own goals for concurrency and the methods of measuring it, Kirkland's leaders devised a rather simple metric: The number of automobiles intending to move through an intersection during rush hour—the volume—divided by the number of vehicles that intersection is designed to move—the capacity. Engineers refer to this as the Volume over Capacity ratio.

"An easy way to think about that is a glass filled with water," says David Godfrey, Kirkland's manager of transportation engineering. "The glass is the number of vehicles that can move through the intersection. And water is the cars. If the glass is partially full that's good but if you pour so many cars through the intersection that they are spilling all over the place, that's a V over C ratio greater than one."

600,000
The number of trips Kirkland engineers estimate residents make on the City's streets every day.

Things that increase the V over C ratio are things that increase traffic volume: shopping centers, apartment complexes, office parks. Things that reduce the ratio are things that increase the intersection's capacity, such as additional turn lanes or Intelligent Transportation System technology. Adding sidewalks, bike lanes and bus routes doesn't help much since, remember, the City's measurement accounts primarily for automobiles at signalized intersections.

Photo courtesy of Oran Viriyincy

A familiar sight: Congestion on Interstate 405 in Kirkland. Interstates and state highways are exempt from state and local concurrency requirements.

Level of Service

The Growth Management Act also required Kirkland to establish ceilings on how much congestion it will allow. This is the level of service component of concurrency.

Once a city has committed to a level of service, it must adhere to that service level until the city council officially changes it.

So, if a developer proposes an office park that would exceed the city's established ceiling on volume over capacity, state law requires that city to reject the proposal.

"... [U]nless transportation improvements and strategies are implemented to accommodate the de-

THE ISSAQUAH EXAMPLE: Why we can't just stop growth

In response to the public's demand for less traffic congestion, the Issaquah City Council in 1995, established a high level of service for its streets. This slowed the pace of in-city development. Development outside the city, however, continued. With it, came traffic, which "tripped" Issaquah's concurrency threshhold in many areas. This resulted in a seven-year halt to development throughout most of the city, which slowed the rate of congestion. Even that wasn't enough, however. To become compliant with its concurency standard, says Mark Hinthorne, special projects director for Issaquah's mayor, the City Council knew it had to build more capacity, including an estimated $24 million project to widen a section of Issaquah-Pine Lake Road to five lanes. It also changed the way it measures concurrency and established a high level of service.

velopment within six years," says the 2005 Puget Sound Regional Council report, *Options for Making Concurrency More Multi-Modal.*

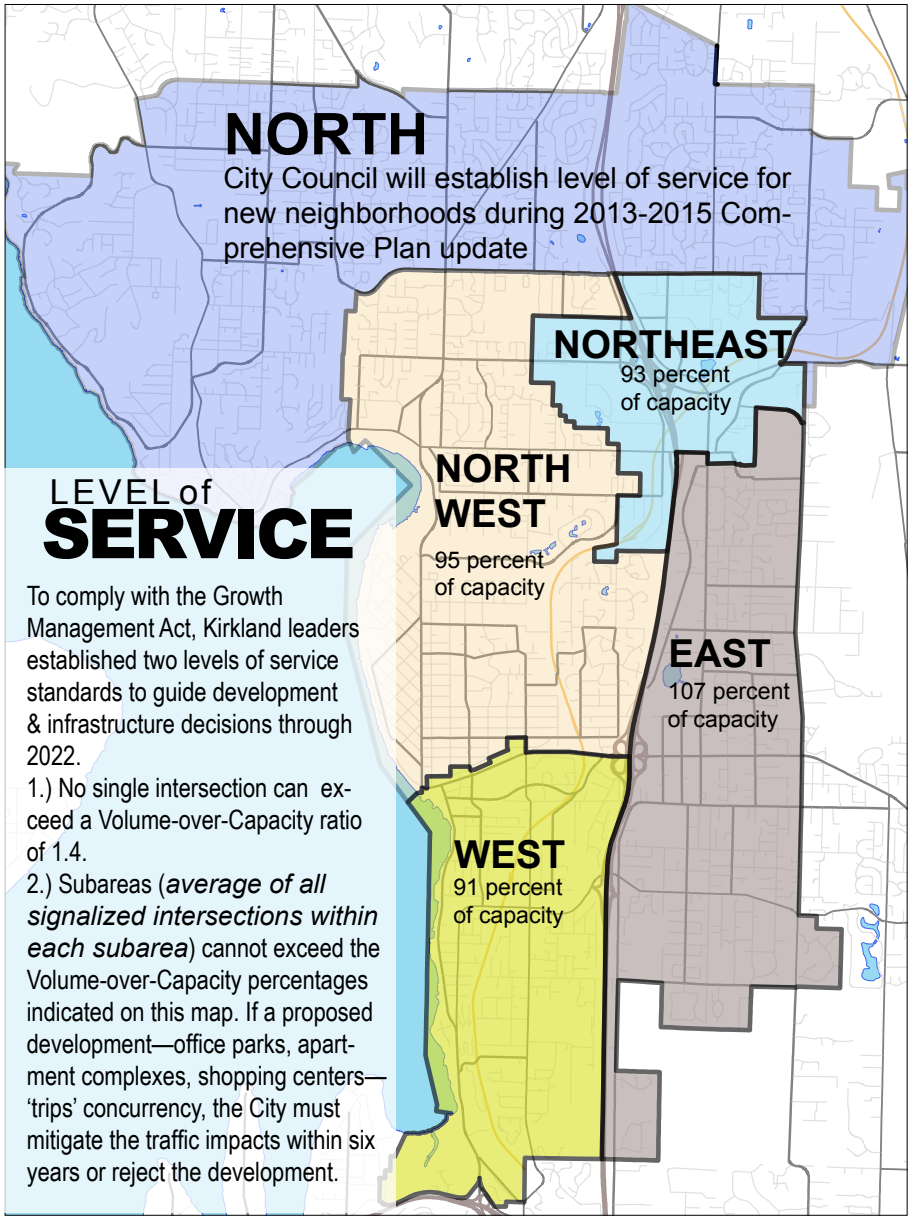
Two decades ago, Redmond, Bellevue and Issaquah all chose high levels of service—that is they chose to ensure efficient traffic flow through their streets. To achieve that, however, they'd have to achieve one of two feats: Harness local and regional development, over which they had some, but not total control. Or continue to increase the vehicular capacity of its streets.

GOAL #12
of the Growth Mgmt. Act

Ensure that those public facilities and services necessary to support development are available for occupancy and use without decreasing current service levels below locally established minimum standards.

By 2002, researchers from the Washington State Transportation Center, found perils in all three cities.

"Under this measurement system, Issaquah is currently out of compliance with concurrency requirements," their resulting November 2002 report *Eastside Transportation Concurrency Study* said. "In Redmond, two of seven zones are out of compliance. Bellevue is currently in compliance, but further development likely will raise compliance issues."



The City of Kirkland currently measures concurrency at signalized intersections with the following formula: The volume of automobiles intending to move through an intersection at rush hour, divided by the number of vehicles that intersection is designed to usher. To include other forms of travel, such as bike-commuting, transit ridership and walking, leaders are working on a new formula, which will be included in Kirkland's first-ever Transportation Master Plan.

Back to the number

Kirkland chose a different path. Unlike Bellevue, or Redmond or Issaquah, Kirkland's leaders established a different level of service that would allow significant congestion. And the number they used to describe that level of service was 1.4.

"We figured out what the V over C would be like in 20 years as a result of development and zoning," says David Godfrey, Kirkland's manager of transportation engineering. "And then we set it high to ensure it would always be realistic."

By doing so, City leaders said, we, as a City are willing to grow, to transform from a bedroom community into a place where people can live, work and play. But we don't want to build five-lane arterials that will attract overflowing freeway traffic. We don't want to continue investing all of our transportation resources into one form of travel—automotive. And to be this kind of a community, we recognize we will either have to

Northeast 130th Street and 120th Avenue Northeast, left photo, has a Volume-over-Capacity ratio of .39, lowest of the 52 intersections Kirkland tested in 2013. The intersection of Juanita Drive Northeast and Holmes Point Drive had a ratio of 1.10, the highest. The difference? Lanes vs. signal phases, says transportation engineer Thang Nguyen.

tolerate more traffic congestion or continue investing in infrastructure, such as the Cross Kirkland Corridor, which expands transportation choices.

"You don't want gridlock," says Thang Nguyen, Kirkland's transportation engineer responsible for testing concurrency. "With limited resources, it becomes a question of how much can you tolerate and how much can you afford."

What about now?

The intersection with the City's worst Volume-over-Capacity ratio is at North Holmes Point Drive Northeast and Juanita Drive Northeast. That ratio is 1.1.

It is comprised of two three-way intersections, separated by a few hundred yards.

"But they work as one system," says Nguyen.

More signal phases means fewer vehicles get through. Despite this, traffic congestion is a problem "only when there's an accident," says Bach Tram, owner of Family Cuts, a hair salon, which sits on the corner. Meanwhile, over at Northeast 130th Street and 120th Avenue Northeast, the City's best intersection, Cathy Devine, the 32-year owner of Compound Pharmacy, says traffic outside her window is a daily reality.

"From early in the afternoon, it's backed all the way up the hill," says Cathy Devine. So what explains the discrepency between the intersections' Volume-over-Capacity ratio and their neighbors' experiences with them? "Perception," Nguyen says.

CONCURRENCY TEST

Fifty-two of Kirkland's intersections function systemically to regulate the City's entire traffic flow. These are called "Concurrency Intersections." Whenever a proposed development requires a State Environmental Policy Act review, engineers test all of the City's Concurrency Intersections for their Volume-over-Capacity ratios. The intersections with the highest ratios are listed below.

Intersection	Volume	Capacity	V/C ratio
North Holmes Pt/ Juan. Drive NE	1,506	1,375	1.10
Juan.-Wood. Way/ 100th Ave. NE	1,414	1,375	1.03
NE 85th St/ 132nd Ave NE	1,381	1,375	1.00
NE 124th St/ Slater Ave NE	1,378	1,375	1.00
NE 85th St/ 122 Ave NE	1,382	1,425	.97
NE 145th St/ Juan.-Wood. Way	1,324	1,375	.96
116th Way NE/ NE 132nd St	1,292	1,375	.94
NE 124th St/ 116th Ave. NE	1,246	1,375	.91
Simonds Road/ 100th Ave. NE	1,781	1,500	.90
NE 70th St/ 116th Ave. NE	1,224	1,375	.89