CITY OF BELLEVUE
BELLEVUE TRANSPORTATION COMMISSION
MINUTES

March 24, 2011
6:30 p.m.

Bellevue City Hall
City Council Conference Room 1E-113

COMMISSIONERS PRESENT:	Chair Tanaka, Commissioners Jokinen, Lampe, Northey, Simas
COMMISSIONERS ABSENT:	Commissioners Glass, Larrivee
STAFF PRESENT:	Paul Krawczyk, Eric Miller, Mark Poch, Dave Berg, Department of Transportation
GUEST SPEAKERS:	None
RECORDING SECRETARY:	Gerry Lindsay

1. CALL TO ORDER

The meeting was called to order at 6:33 p.m. by Chair Tanaka who presided.

2. ROLL CALL

Upon the call of the roll, all Commissioners were present with the exception of Commissioners Glass and Larrivee, both of whom were excused.

3. STAFF REPORTS

Capital Programming Manager Eric Miller reported that on March 7 the City Council passed Ordinance 5993B forming the Wilburton Connections Local Improvement District. The special benefit assessment is in the amount of approximately $13.5 million. In passing the resolution of intent to form the LID the Council set a preliminary assessment ratio of 75 percent of that, which would have been just over $10 million. Ordinance 5993B includes a 50 percent cap on the amount of the special benefit that can be assessed against the property owners within the LID, which rounded up is about $6.8 million. The CIP budget for the two projects the LID will help to fund includes about $10 million from the LID, so there will have to be a budget amendment to correct for that. At the same time, staff has taken a hard look at the project costs and fully expects them to come down, possibly enough to make up the difference.

Mr. Miller said the LID is the first formed in Bellevue in more than 20 years. It may be

protested by the property owners during the 30-day period that expires on April 6. Any protest must be submitted in writing to the City Clerk. In order for the protest to succeed, objections will need to be raised by property owners who stand to receive at least 60 percent of the appraised special benefit.

Senior Project Manager Paul Krawczyk reported that the 145th Avenue SE, Factoria trail and 108th Avenue SE projects have all gone to bid. The 108th Avenue SE project bid was opened and it came in $700,000 under the engineer's estimate. Contractors have been reducing their mobilization costs to be competitive, and they have also been reducing some of their traffic control costs. Recent increases in oil have not yet been reflected in bid prices.

4. COMMUNICATIONS FROM CITY COUNCIL, COMMUNITY COUNCILS, BOARDS AND COMMISSIONS – None

5. REPORTS FROM COMMISSIONERS

Chair Tanaka reminded the Commission that at a previous meeting there was talk of making contact with other local transportation commissions. He said he had made contact with the transportation commission from the city of Kirkland to determine their interest in sharing ideas. He said he and Commissioner Simas attended their meeting on March 23 and learned that they are in fact interested in exploring having further contact with the Bellevue Transportation Commission.

Commissioner Simas stated that Kirkland has information from its commission posted online. He urged the Commissioners to look at their notes to gain a better understanding of the kinds of things they are working on. They are working levels of service, an ITS system, and the Eastside rail corridor. There are many similarities but also several distinct differences.

Chair Tanaka said the logistics of getting the two commissions together have not yet been worked out. He asked the Commissioners to assist him in coming up with a list of topics to discuss.

Commissioner Lampe said he attended the most recent briefing on the B7 light rail alignment alternative, which is the city's preferred alternative for south Bellevue. There were more than 250 people in attendance. Progress is being made. One of the biggest challenges is that the south Bellevue park and ride would have to be relocated to southeast Enatai. Cost and ridership estimates are slated to be delivered to the Council on April 25.

Commissioner Northey said she heard recently from a citizen who attended one of the rail alignment open houses. There was a map on which those in attendance could indicate their residence, but the map did not cover the entire city; residents not living along a proposed alignment were not able to show where they lived on the map. It is a citywide project and at future meetings a different tack should be taken.

With regard to the fact that I-405 will be closed the first weekend in April, Commissioner Northey noted that as part of her professional job in emergency management she has been working on a transportation recovery plan with detour routes predicated on having all freeways closed. She said the closure will be a very good opportunity to track where the traffic goes and test possible detour routes.

6. PETITIONS AND COMMUNICATIONS – None

7. APPROVAL OF AGENDA

The agenda was approved by consensus.

8. STUDY SESSION

A. Traffic Computer System Upgrade

Traffic Engineering Manager Mark Poch said about five years ago the city reached the conclusion that its current signal system is obsolete. The system was state-of-the-art when it was installed in the late 1970s as the first computerized traffic control system in the United States. Since then improvements have been made but its business line has come to an end and vendor support has all but dried up. The upgrade process began in 2009 where the focus was on the communication system, which is the backbone of the new system. Also during 2009 a signal system study was conducted to narrow the field to the best system for the Bellevue. The recommendation presented to the Council in 2010 was in favor of the Sydney Coordinated Adaptive Traffic System (SCATS), a system that was developed in Australia.

The $630,000 Phase I contract was approved by the Council in July 2010 under PW-R-155. It focused on implementing SCATS at 31 intersections, including intersections in the downtown and on Factoria Boulevard. All of the intersection profiles along with the software and hardware were placed in test cabinets in the signal shop and were allowed to run to see if problems could be identified and addressed. Some problems were noted and fixed, and the system was ready for installation by October. The system was up and running by early November in time for the holiday traffic rush in the downtown. In the final two months of the year the system was fine-tuned and training was provided by the consultant.

Mr. Poch said seven intersections were added to the Phase I project, three around Bellevue Square and four on Coal Creek Parkway. Those should all be in place by the end of April. The consultant TransCore ITS has been very good to work with. Bellevue is the only city in the state that has a traffic adaptive system in place and operational.

There are several objectives the new system is expected to achieve. Continuity of operations is the overriding objective. The other objectives are to reduce vehicle and pedestrian delay; to be

able to adapt quickly to changing conditions; to lower signal cycle lengths where possible; and to gain some specific new features.

Signal coordination is the process of getting groups of traffic signals to work together to achieve an objective, which could be having a green band in a certain direction or preventing backups into adjacent intersections. The rule of thumb used by traffic engineers in coordinating signals is that all of the signals must run on the same cycle length, which is the time needed to serve all movements at an intersection. Identical cycle lengths translate into common time points of reference.

The traditional approach to traffic signal coordination involves time-of-day coordination. Essentially that means intersections are counted, engineers design coordination plans for different time periods during each day, and the plans are implemented by time of day. The problem with that approach is the plans do not respond to changes in traffic and may be predicated on traffic counts made four or five years ago.

Mr. Poch explained that the traffic adaptive approach continuously obtains traffic data from all lanes at all intersections in the coordination string from detectors in the pavement. The data is sent to the central computer via the communications system, and the computer sends out a new coordination plan every single cycle. He shared with the Commissioners recently collected data from Bellevue Way and NE 8th Street and explained that SCATS allows for eliminating inefficient cycle time where possible and adding extra cycle time to delay the onset of congestion when possible.

Under the old system long strings of intersections were coordinated together. For the downtown, that meant the entire length of Bellevue Way from Main Street to NE 12th Street. The reality was that during certain times of the day, the system was very inefficient because the different intersections along the string have very different needs. Under the new system, intersection strings are much smaller, usually anywhere from two to five intersections. SCATS monitors the traffic between the groups, and when a threshold is met the groups are married together. It is more efficient to have longer coordinated strings when the traffic is higher.

The Commissioners were shown data from the intersections of Bellevue Way and NE 8th Street and NE 8th Street and 112th Avenue NE. Mr. Poch pointed out that the cycle lengths for the intersections are quite similar, especially from about 10:00 a.m. on. However, in the morning, the Bellevue Way and NE 8th Street intersection benefits from having a much lower cycle length. By keeping the two intersections divorced prior to 10:00 a.m. it is possible to tweak their efficiencies without giving up much by way of performance.

Responsiveness is one of the biggest selling features for adaptive traffic systems. Mr. Poch compared data for NE 8th Street for a typical Tuesday against a snowy Tuesday. He noted that the traffic volume on the typical Tuesday was significant from 7:00 a.m. to 9:00 a.m. On the snow day, however, traffic flow was not significant until 5:00 p.m. He pointed out that the

cycle lengths during the high traffic periods were higher, and were much lower during the low traffic periods. Under the old system, the cycle lengths for the intersections would have been set at 140 seconds regardless of traffic volumes. Holiday traffic, special events and construction can all trigger a need to tweak signal cycles. Under the old system it was necessary for traffic engineers to make educated guesses with regard to timing adjustments to cope with unforeseen circumstances; under SCATS, traffic data is constantly being monitored and signal timings are adjusted as needed all automatically.

SCATS will allow for implementing transit signal priority. It also allows for implementation of a flashing yellow signal which emphasizes to drivers the need to yield when turning left. Engineers can also change the left-turn rules based on conditions or the time of day. The southbound to eastbound left turn at the intersection of Factoria Boulevard and Newport Way is fitted with the new flashing yellow signal. Under the old system, the left turn was given a green arrow, then a yellow arrow and then a red arrow, following which even if there was a gap in traffic drivers had to wait for the cycle to come around. SCATS allows the left turns occurs on the flashing yellow arrow for most of the day. The before and after delay study conducted at the intersection shows delay has been reduced.

Answering a question asked by Commissioner Northey, Mr. Poch said the old system did not allow for going to a green arrow only during certain times of the day. SCATS liberates engineers to do so, which is making left turns more of a managed asset. Each location with a flashing yellow arrow will be checked every six months, and if accidents are seen to be increasing, the timing will be adjusted; if no accidents are seen, the time might be expanded somewhat. More flashing yellow arrows will be implemented during the next phase of implementation.

Mr. Poch explained that SCATS also allows for phase re-servicing. During a signal cycle, all of the various movements at an intersection are served. With phase re-serving, it is possible to pick out a movement and serve it twice in the same cycle. The option has proved to be very effective at some of the freeway interchanges. The intersection of NE 4th Street and the northbound I-405 onramp is legendary for backing up into the downtown during the evening peak. The problem lies more with the Washington State Department of Transportation ramp meter than with the city streets. The ramp meter has a very short queuing space and even with giving as much time as possible to left turns the intersection could not clear out under the old system. With SCATS in place, the longer phase is broken into two shorter phases, which keeps the queuing space from filling up as fast. That allows three or four more cars per cycle to make their way onto the freeway; at 35 cycles per hour, that accounts for an extra 150 cars.

Commissioner Simas asked if there would be any efficiency in opening both the SOV and general left turn lanes to SOVs, possibly adding a second meter on the ramp itself to allow traffic to flow. Mr. Poch said that would be a very good idea in that it would double the queuing space. The problem is the NE 6th Street HOV interchange does not connect with SR-520. The new interchange from NE 10th Street may help to some degree. Re-servicing has not

and cannot solve the problem at the NE 4th Street interchange given that the limiting factor is the ramp meter; the ability to use the queuing space more efficiently has definitely helped, however.

Commissioner Lampe asked if opening both left turn lanes to SOVs would be a call WSDOT would have to make. Mr. Poch said the interchange was funded with HOV-only dollars back in 1986. During the Access Downtown study there was talk of opening both left turn lanes to SOV traffic and the conclusion was that one lane had to be dedicated to HOV.

Mr. Poch said pedestrian re-servicing is another feature SCATS allows. The new system is smart enough to know how long the green light will be on for the coordinated arterial and calculate whether or not there is time to serve a walk and a don't walk. The old system could not do that. Another new feature is called pedestrian advance which gives pedestrians the walk sign about five seconds ahead of the green light for vehicles crossing the crosswalk. That makes the pedestrian more visible to drivers. Implementation at the intersection of 102nd Avenue NE and NE 8th Street has reduced the number of documented pedestrian/vehicle accidents to zero.

Mr. Poch shared with the Commissioners data regarding the delay reduction at the intersections where the flashing yellow arrow option is operational. He pointed out that at $10 per hour the public benefit calculates out to around $250,000. The benefits will only increase as the system builds out.

Intersection modeling has been done at four of the intersections in the Phase I deployment for different time periods of the day. The work was done to get a better idea of where the most delay reduction is occurring. Overall, the delay reduction calculates out to around ten percent. On Factoria Boulevard, about a 40 percent delay reduction in the southbound direction during the evening peak has been calculated. In the downtown, a big travel time reduction is evident westbound on NE 8th Street in the afternoons. That is significant in that NE 8th Street is no longer directional in the afternoon given that there is one car going out of town for every car coming into town. NE 4th Street remains directional with two cars going out for every car coming in; the outbound direction travel time has improved under SCATS.

Mr. Poch stated that there are only 52 intersections remaining in the city that are still on the old system. A bridge system has been implemented which allows intersections to be temporarily brought online in anticipation of being brought fully onto SCATS. It will take six phases to complete the entire system, and roughly one system will be done each year. Phase II, which will kick off in 2011, will finish the downtown corridors, the hospital district and the 116th Avenue NE corridor, bringing another 31 intersections online. Phase III, the 2012 program, will focus primarily on the 148th corridor, though it will pick up the iron triangle area and Eastgate; it will include 30 intersections. Phase IV, the 2013 program, will finish east Bellevue and take on Bel-Red Road, NE 20th/Northup Way, 140th Avenue NE, 156th Avenue NE at Commissioners and bring the total to 69 percent; Phase IV will convert the rapid ride transit

signal priority over to SCATS. Phase V in 2014 will convert the rest of 140th Avenue, the SE 8th Street interchange, Lakemont Boulevard, Coal Creek Parkway and the rest of Bellevue Way. Phase VI in 2015 will complete the project by focusing on various isolated intersections.

Commissioner Northey asked if the city will be able to continue receiving grants to at least partially pay for the upgrades. Mr. Poch said he did not know. He said there are no grants on the horizon other than the one secured for Phase II. However, traffic adaptive projects are currently very attractive for grant funding in that it is an area the federal government wants to move toward. PW-R-155 funds the project through Phase IV.

Commissioner Simas asked when the city will be completely off the old system. Mr. Poch said that will be accomplished by the end of 2011.

Mr. Poch said the SR-520 Eastside Transit and HOV project will rebuild two of the major interchanges on SR-520: the one at Bellevue Way and the one at 108th Avenue NE. Three new traffic signals will be installed and six intersections will be brought onto SCATS. WSDOT will fund putting the intersections onto SCATS and will let the city operate them. Feelers are out with the city of Kirkland to discuss the intersection of Lake Washington Boulevard and NE 38th Street to gauge their level of interest in having that intersection operated under SCATS as well.

Commissioner Lampe suggested that the benefits calculation using $10 per hour is quite conservative. Taking into account saved time and the fact that less energy will be consumed, the benefits are actually much higher. The estimate is that by 2030 the city will only be able to handle between 80 and 82 percent of the downtown traffic flow. With Bellevue's unique superblock configuration and the level of density it has, the SCATS system appears to be a perfect fit. Whatever can be done to champion moving the project forward should be done. Mr. Poch said the schedule generally equates to one phase per year, but if possible it will be done faster.

Mr. Miller commented that to the extent a capacity benefit can be proved, impact fees might be able to be used to help construct the ITS system. He allowed that there are also various grant programs that could be investigated. As the ITS system becomes fully implemented, the efficiencies it will bring about may obviate the need for some Transportation Facilities Plan projects, such as the one on Factoria Boulevard and Newport Way. He said staff will be looking at those things as plans are updated.

B. Transportation Improvement Program (TIP) Update

Mr. Miller reminded the Commission that state law requires local jurisdictions to update their TIPs annually. The current TIP was adopted by the Council in May 2010 following a public hearing before the Commission in April. He said the current TIP, modified to show the proposed updates, was included in the packet materials. A public hearing has tentatively been

scheduled for April 14.

Mr. Miller briefly explained that projects from the city's long-range and other transportation plans get folded into the TIP. Additional projects come from regional sources such as WSDOT or transit agencies in which the city decides it may want to participate financially for the benefit of the city. The TIP is a tool that furthers coordination with partners in the region, including state and the Puget Sound Regional Council. The role of the Commission is to provide input regarding the projects to staff, to solicit public input, and to make a recommendation to the City Council which by law must adopt the update by June 30 and submit it to the state and the Puget Sound Regional Council by the end of July.

The projects in the TIP are divided into four categories: 1) projects included in the adopted CIP; 2) unfunded projects included in the adopted TFP; 3) other unfunded local projects identified or scoped by completed alternative analyses and planning or pre-design studies; and 4) other regional or outside agency-led projects. In addition, the projects on the proposed list were color-coded to highlight new projects, completed or deleted projects, and projects proposed to be transferred between TIP sections.

Mr. Miller stated that only a few new projects are proposed to be added to the TIP. Four of them are CIP projects, and one is a placeholder for early implementation of priorities identified by the Eastgate Subarea Plan Update. The proposal includes the removal of 13 projects from the TIP: four will be completed by the end of 2011; one, the transportation planning studies, has been moved out of the CIP and put into the operating budgets; and eight projects are to be combined with other CIP projects.

Commissioner Lampe said it was his understanding that the overlay program is something the city has been fairly proactive on and thereby has been able to avoid a lot of road maintenance. He asked what the traditional cycle has been and how it has changed because of the budget constraints. Deputy Director Dave Berg explained that there are two types of roadways: arterials and residential. Arterials have typically been overlaid on a 12- to 15-year cycle, while residential streets have typically been overlaid on a 20- to 25-year cycle. The overlay program budget has been reduced by 25 percent, and that will mean stretching out the residential overlays to 25- to 27-year cycles. The intent is to strive to maintain the same service and performance levels for arterial streets.

Commissioner Northey noted that money has been identified to do a downtown transportation plan update. She said she was a bit surprised that the downtown will be studied some more when some parts of the city have not been studied in a long time. Mr. Miller said the planning horizon for the Downtown Implementation Plan was 2020, which is not that far off. The proposed study will extend the planning horizon out to 2030. Commissioner Northey thought it would be useful for the Commission to see a matrix of all the other subareas and their planning horizons, some of which may have already expired.

There was consensus with regard to the list as presented and with scheduling the public hearing for April 14.

Mr. Miller took a moment to highlight the fact that the 145th Avenue and 108th Avenue SE projects were set to go out to bid. He also commented one of the projects funded in the CIP by the Council at the last minute was the Neighborhood Sidewalk Program; the Commission likely will have a role to play in prioritizing some of the candidate projects and in making a recommendation to the Council.

C. City Council Update

Chair Tanaka said he and Commissioner Simas had a meeting on February 10 with Councilmember Lee to talk about projects the Commission would like to examine in the future. Councilmember Lee said he would like the Commission to address several issues, including the development of new technologies that address improved transportation systems, everything from signal timing and coordination to people movers and sky bridges; transit planning with an eye on improving the use of public and private mass transit systems, identifying gaps in service, and focusing more on transit mobility than roadway improvements; what Bellevue can be doing better regionally, which is a topic generally reserved for the Council; and how to better fit the Transportation Commission into the budget process. The list of other items the Commission might pursue in the future includes impact fee updates and other ways of raising money; how the Commission fits into future budget processes; and the timing and predictability of Commission input relative to the Council process. The areas in which the Commission can provide support to the Council include neighborhood projects; internal street standards; bicycle safety incentives; the importance of safety in evaluating transportation needs; and the development of policies that address things like mass transit.

Chair Tanaka commented that Bellevue is changing and is not necessarily as homogenous as it used to be. There are numerous socioeconomic populations rising in different parts of the city and there may be a function for the Commission in reaching out to some of those communities, letting them know the Commission is a place to express any concerns regarding transportation issues they are facing.

Chair Tanaka asked the Commissioners to comment on whether or not a retreat should be scheduled to talk about the various issues. He asked them to give some consideration to what topics should be discussed.

Commissioner Simas commented that with light rail coming to Bellevue there will be a lot of changes over the next decade or two in terms of traffic flow, the usage of the streets, and transportation methods for getting into and out of the city, as well as around the city. He said he did not have a good handle on what transportation planners are thinking about the system in the coming years. It might be a valuable function for the Commission to become more engaged and better educated with regard to the long-term impacts that will flow from having

light rail in the city. The Commission needs more details with regard to the big picture. The SR-520 bridge tolling will kick off very soon and everyone believes that will affect the local traffic patterns; while technically a regional issue, it would be good for the Commission to evaluate the particulars and develop opinions given that the regional traffic will be using Bellevue roadways. The data may affect the recommendations made by the Commission with regard to dollars spent on infrastructure.

Commissioner Northey agreed the Commission should put itself in the position of helping to formulate the vision for what the city should be. The Commission should host a panel of the best and brightest experts at its retreat, with Councilmembers and members of other city boards and commissions invited to attend.

Commissioner Lampe commented that the Bel-Red study actually serves as a good case study. It had a forward-looking bent and all of the planners weighed in with regard to what makes sense relative to transit-oriented development. The work done there should be leveraged.

Answering a question asked by Chair Tanaka, Mr. Krawczyk said he would talk with the planning managers to make sure the staff will be able to handle putting together a panel of experts within their current work loads.

Commissioner Northey said if attention was given to developing a transportation master plan or a strategic plan, all of the assumptions already made would quickly rise to the top.

Commissioner Simas concurred. He said the development that will be going on around the light rail station in Bel-Red represents a major shift from what is in the rest of the city and most major cities in the region. It would be good to hear from those who will be creating the developments are thinking, how they think traffic flows will change, and how people will even use their vehicles. That kind of information would help the Commission refine its decisions from an infrastructure standpoint.

Commissioner Jokinen said he would like the Commission to spend some time focused on defining what its mission is. The groups needs to identify a framework and a list of priorities, one of which could be future needs and issues. Everything taken on by the Commission should fit within the identified mission and scope. Time should be spent at the retreat in setting both long-term and short-term goals.

Commissioner Northey expressed her desire to see the retreat conducted away from City Hall in a more relaxed environment.

9. OLD BUSINESS – None

10. NEW BUSINESS – None

11. PETITIONS AND COMMUNICATIONS – None

12. APPROVAL OF MINUTES

A. January 13, 2011

Motion to approve the minutes as submitted was made by Commissioner Simas. Second was by Commissioner Lampe and the motion carried unanimously.

13. REVIEW COMMISSION CALENDAR AND AGENDA

The Commission reviewed the items scheduled for discussion at upcoming meetings.

14. ADJOURNMENT

Chair Tanaka adjourned the meeting at 8:37 p.m.

Paul Krueger — 5/12/11

Secretary to the Transportation Commission — Date

Thomas H. Tanaka — 5/12/11

Chairperson of the Transportation Commission — Date