

Arboretum Mitigation Plan | **Appendix F: SDOT's Arboretum Traffic Management Matrix**

Arboretum Traffic Management Measures for Evaluation - December 20, 2010

NOTE: Measures identified as "Recommended" are to be further assessed and refined as part of a comprehensive traffic management plan for the Arboretum.

ID	Type	Description	Benefits to Arboretum	Challenges	Comment	Application	Investment	Action	Timeline
A	Signing Improvements	Install signing that directs SR 520-related traffic to the Montlake interchange on routes other than Lake Washington Blvd. Locations could include the intersections of Madison & 23rd Ave, LWB & Madison and 24th Ave & LWB.	Low cost. Easy to implement	Little effectiveness. People will typically find "easiest" route regardless of signing.	WSDOT data indicates that in the AM Peak period, only 5% of SR 520-bound traffic originates to the west of the Arboretum. With Preferred Alternative, and removal of Arboretum ramps, access to SR 520 via 23rd Avenue is the shortest route for vehicles originating from the west.	Full Time	Low	Recommended: Will be included as part of overall Arboretum Traffic Management Plan.	2011 Evaluation: • Evaluate potential for signage improvements
B	Traffic Signal Modifications	Set intersection signal timing to discourage traffic from routing through the Arboretum. Options include reducing time for EB Left turns at the intersection of Madison & LWB, Increasing time for EB left turn at intersection of Madison & 23rd Ave. Optimize the signal timing of the 24th & LWB intersection to minimize SB left-turns into the Arboretum.	Drivers may find it easier to access SR 520 via 23rd instead of Lake Washington Blvd.	Minimal effectiveness - vehicles from west would use 23rd with Preferred Alternative.	WSDOT data indicates that only a small portion (5-10%) of SR 520-bound traffic originates from west of the Arboretum. With Preferred Alternative, and removal of Arboretum ramps, access to SR 520 via 23rd Avenue is the shortest route for vehicles originating from the west.	Peak Hour	Low	Recommended: Will be included as part of overall Arboretum Traffic Management Plan.	April 2011 Traffic Signal Evaluation: • Evaluate / modify signal timing at Madison and Lake Washington Blvd
C	Traffic calming treatments	Installation of traffic calming measures along Lake Washington Blvd. through the Arboretum, including raised, marked cross-walks, speed cushions and potential radar-speed signs	Effective for slowing traffic, and creating a safer environment for pedestrians and bicyclists within the Arboretum.	Would have minimal effect on reduction of traffic volumes in the Arboretum. Potential visual impacts.	SDOT has developed a draft plan for calming traffic in the Arboretum, and will continue to work with the ABGC to refine the plan.	Full Time	Low	Recommended: Already identified through separate Traffic Calming improvements.	April 2011 Traffic Calming Implementation: • Two speed cushions (locations TBD) • Marked crosswalk on Lake Washington Blvd at Arboretum drive with connection to Japanese Garden parking lot • Crosswalk maintenance at Boyer Ave E 2011-2012 Traffic Calming Implementation: • Raised crosswalk on Lake Washington Blvd north of Interlaken Dr • Curb extension / modification at intersection of Lake Washington Blvd and Foster Island Rd • Radar speed signs (if desired)
D	Turn Restrictions	Prevent SB left turn from 24th onto LWB during off-peak hours	Would direct SR-520 off-ramp traffic away from Arboretum during off-peak times (weekends, mid-day, and evenings)	Capacity improvements (adding turn pockets) at the intersections of Montlake Blvd/LWB, 23rd and Boyer, Interlaken and John Streets may be needed.	Without additional turn restrictions and/or capacity improvements being applied to the intersections of 23rd and Boyer/Interlaken, these roads would be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd during off-peak times.	Part Time	Low - Moderate	Recommended: Additional data and evaluation needed to define time/days of restriction.	Long-Term Evaluation: • Begin evaluation in 2012-2013
F	Turn Restrictions	Prevent SB left turns from 23rd onto Boyer and/or Interlaken	Would direct SR-520 off-ramp traffic away from Arboretum	For peak-hour operations, would potentially require additional capacity improvements (adding turn pockets) at the intersections of 23rd and Boyer Interlaken and John Streets. Would force SB local neighborhood traffic to take circuitous routes	If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	Moderate - High	Recommended: Additional data and evaluation needed to define time/days of restriction.	Long-Term Evaluation: • Begin evaluation in 2012-2013
H	Traffic Restrictions	Prevent WB Through traffic from LWB from accessing the EB 520 on-ramp at Montlake.	Would discourage SR 520 on-ramp traffic from using LWB.	For peak-hour operations, would require additional capacity improvements along Madison and 23rd/24th Avenues, at the intersections of 23rd and Boyer, Interlaken and John Streets.	Without additional restriction being applied to Boyer and Interlaken, these roads would be impacted by traffic trying to go from Lake Washington Blvd. to from 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	Moderate	Recommended: Additional data and evaluation needed to define time/days of restriction.	Long-Term Evaluation: • Begin evaluation in 2012-2013
J	Traffic Restrictions	Restrict Interlaken and Boyer access to Lake Washington Boulevard	Would discourage traffic from SR 520 from using the Arboretum. Would reduce traffic on Interlaken and Boyer during the PM Peak.	Would affect all traffic (not just SR 520 vehicles). Local access for residents would be circuitous.	Could be used in combination with other turn restrictions that divert traffic to 23rd.	Full time, or Part time	Moderate	Recommended: Additional data and evaluation needed to define time/days of restriction.	Long-Term Evaluation: • Begin evaluation in 2012-2013

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ID	Type	Description	Benefits to Arboretum	Challenges	Comment	Application	Investment	Action	Timeline
L	Tolling	Toll trips that access SR 520 by passing through the Arboretum. Scanners would be installed to read a vehicles toll transponder or license plate. Vehicles that drive between the Arboretum and SR 520 would be charged a fee.	Depending on the toll amount, tolling has the potential to significantly discourage traffic from accessing SR 520 via the Arboretum.	Visual impact - scanners and associated signing would be inconsistent with the aesthetics of the Arboretum. Diverted traffic may impact adjacent neighborhoods.	Policy implications of tolling Lake Washington Boulevard through the Arboretum would require additional review and assessment by City and State agencies, and is beyond the purview of this technical assessment.	Variable	T.B.D.	Recommended: Further study and analysis needed to validate feasibility of tolling.	<p>Fall 2011 Evaluation:</p> <ul style="list-style-type: none"> Complete feasibility study <p>Late 2011 to Mid 2012 Evaluation:</p> <ul style="list-style-type: none"> Conduct additional traffic study/counts on LWB <p>Late 2012 Evaluation:</p> <ul style="list-style-type: none"> Revisit feasibility study and determine next steps
M	Tolling	Cordon toll around the Arboretum. Scanners would be installed to read a vehicles toll transponder or license plate. All vehicles that passed through the Arboretum would be charged a fee. Those that stopped to visit the park would not be charged if they returned the same way they entered.	Depending on the toll amount, tolling has the potential to significantly reduce traffic in the Arboretum.	Would impact local neighborhood travel. Visual impact - scanners and associated signing would be inconsistent with the aesthetics of the Arboretum. Diverted traffic may impact adjacent neighborhoods.	Policy implications of tolling Lake Washington Boulevard through the Arboretum would require additional review and assessment by City and State agencies, and is beyond the purview of this technical assessment.	Variable	T.B.D.	Recommended: Further study and analysis needed to validate feasibility of tolling.	See above (L)
Options not recommended for further evaluation at this time:									
E	Turn Restrictions	Full-time restriction of SB left turn from 24th onto LWB	Would direct all SR-520 off-ramp traffic away from Arboretum	Would require adding of lane (approximately 12 feet of width) on 23rd south of LWB. In addition, capacity improvements (adding turn pockets) at the intersections of Montlake Blvd/LWB, 23rd and Boyer, Interlaken and John Streets would be needed.	Without additional turn restrictions being applied to Boyer and Interlaken, these roads would be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd.	Full time	High	Not Recommended: Would require capacity improvements along 23rd Avenue	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
G	Traffic Restrictions	Cul-de-sac LWB east of 24th or north of Boyer	Would direct SR-520 traffic away from Arboretum	For peak-hour operations, would require adding an additional lane (approximately 12 feet of width) on 23rd south of LWB. In addition, capacity improvements (adding turn pockets) at the intersections of 23rd and Boyer, Interlaken and John Streets. All "local" (non-SR 520 related) traffic would be affected. Could adversely impact Boyer and Interlaken as drivers could use these roads to access 23rd Avenue from LWB. Would require "turn around" area.	Without additional restriction being applied to Boyer and Interlaken, these roads would be impacted by traffic going between Lake Washington Blvd. and 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	High	Not Recommended: Would require capacity improvements along 23rd Avenue	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
I	Traffic Restrictions	Prevent traffic from accessing LWB from the SR 520 EB off-ramp.	Would discourage SR 520 on-ramp traffic from using LWB.	Would only affect a small volume of traffic. For peak-hour operations, may require additional capacity improvements along 23rd, at the intersections of 23rd and Boyer, Interlaken and John Streets.	Without additional restriction being applied to Boyer and Interlaken, these roads may be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive, or needed.	Full time, or Part time	Low - Moderate	Not Recommended: Would require capacity improvements along 23rd Avenue and Boyer	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
K	Traffic Restrictions	Create single reversible lane through Arboretum and two-way bike path within existing roadway prism. The reversible lane would accommodate peak-hour traffic.	Would reduce traffic volumes through the Arboretum by removing the "reverse" peak traffic flow, and improve LWB for bikes. Would limit adverse affects to adjacent roads since directional peak-hour capacity is maintained.	Would affect all traffic flowing "against" peak-hour traffic. Would be challenging to implement dynamic lane designation signage on either end of the reversible facility. Intersections of LWB and Interlaken and Boyer would need dynamic control as well. Aesthetic challenges to implement signage.	Would need to be further explored from a feasibility standpoint.	Variable	High	Not Recommended: Would negatively impact local circulation and connectivity.	