

Welcome

SEPA & Greenhouse Gas Emissions

Where are We?

Annie Szvetecz, Dept. of Ecology

Tim Trohimovich, Futurewise

Cathy Beam, City of Redmond

Discussion Topics

■ Policy Level

- What is the role of SEPA regarding climate change?
 - Reducing emissions
 - Increasing resiliency
- How does the statutory emission limit apply to non-project and project-level analysis and decisions?

■ Practical Level

- Advice for agencies
- Advice for project applicants

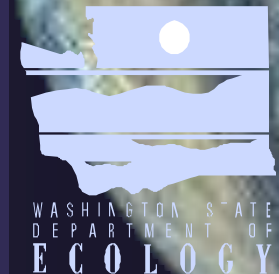




SEPA & Climate Change
Overview

Background

- **2007 Climate Advisory Team**
 - *Recommends state “clarify” role of climate analysis in SEPA*
- **Jay Manning’s April 30, 2008 letter**
 - *It is our intent to revise and clarify the SEPA rules and provide useful guidance on this topic.*
- **SEPA IWG of the Climate Action Team recommendations**
 - *Provide clear guidance*
 - *Distribute reference materials*
 - *Identify tools to quantify emissions*



What drives SEPA climate review?

- Current mandate to analyze & consider impacts
 - Methodology for considering is as a cumulative impact, just at the most broad level – global
 - Document this process in DNS or EIS
- Mandate to consider available mitigation
- Current mandate to disclose publically
 - checklist, worksheet, EIS or other document
- Current mandate to prepare EIS if impacts are significant
 - The burden of EIS preparation for a proponent is a big deal, creating incentive to reduce project impacts



Climate Mitigation

Action taken to permanently eliminate or reduce the long-term risk and hazards of climate change to human life, property and the environment.

“Intervention to reduce the sources or enhance the sinks of greenhouse gases.”

IPCC



Climate Adaptation

- **Ability to adjust to climate change (including climate variability and extremes)**
 - **minimize vulnerability and damage**
 - e.g. soft shorelines, set-backs
 - **motivation for broader sustainability policies**
 - **improve resiliency for climate and other environmental challenges**



SEPA Addresses the Gaps

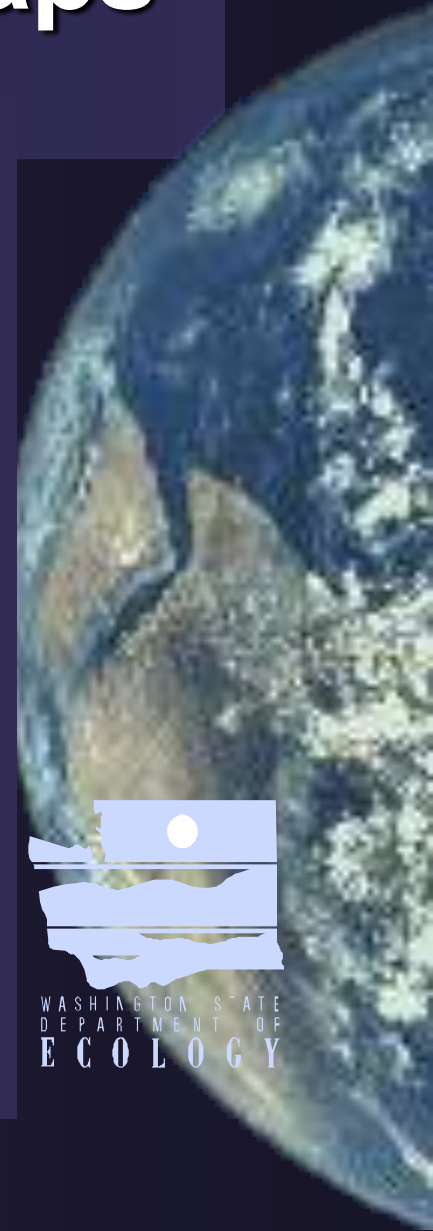
- SEPA's role in addressing climate change is to fill the gaps until more comprehensive regulation is in place.
- As science, policy and regulations progress, the gap should narrow.



GAP

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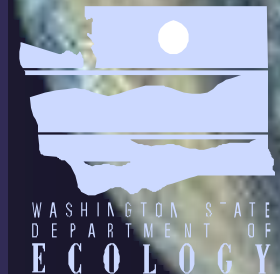
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Recommended Approach

- Identify and Assess GHG Emissions
- Assess Vulnerability Impacts
- Identify Mitigation Opportunities
- Determine Significance
- Apply SEPA Supplemental/Substantive Authority to Mitigate



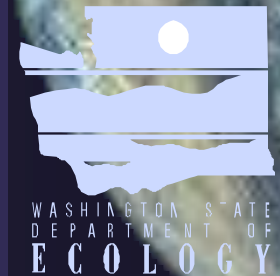
Questions and Concerns

- Are GHGs appropriately considered under SEPA or are they too remote and speculative?
- What sources of emissions should be considered?
- Are impacts from GHGs always significant or never significant (or somewhere in-between)?
- What is a vulnerability impact?
- Will mitigation be required for every pound carbon dioxide emitted?



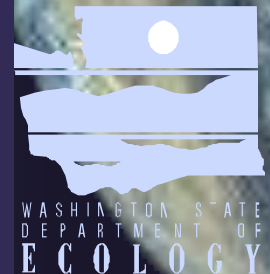
Emissions and Impacts

- Direct and indirect greenhouse gas *emissions* are a component of a proposal.
- They contribute to level of atmospheric greenhouse gases
- Cumulative result of this (with past, present, future) global emissions worsens our global climate –resulting in *impacts* such as temperature increase, sea level rise etc.



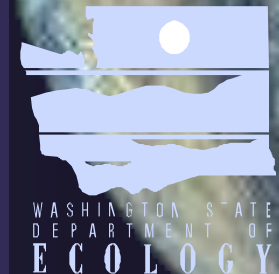
Climate Impacts are Reasonably Foreseeable

- New sources of GHGs exacerbate environmental impacts by adding to current and future concentration levels
- *See Massachusetts v. EPA*: “The harms associated with climate change are serious and well recognized.”
- Similar to stormwater pollution: multiple sources create polluted stormwater runoff which collectively impacts Washington waters, fish, and wildlife



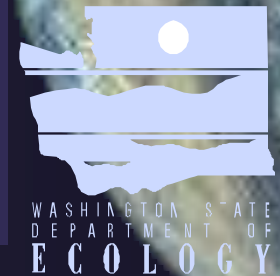
Speculative vs. Reasonably Foreseeable

- NEPA Cases: *when the extent of an effect is speculative, but the nature of the effect is not, the agency may not simply ignore the effect (Mid-States Coalition for Progress v. Surface Transp. Bd.)*
- SEPA regulations: *proceeding with incomplete or unavailable information (WAC 197-11-080)*
- SEPA Cases: future development should be considered even in the absence of specific plans to develop *King Cy. v. Wash. State Boundary Review Bd.*



What are greenhouse gases?

- carbon dioxide (CO₂) –*carbonic anhydride*
- nitrous oxide (N₂O) *Laughing gas*
- - methane (CH₄) -*Marsh gas*
- - hydrofluorocarbons (HFCs)
- - perfluorocarbons (PFCs)
- - sulfur hexafluoride (SF₆) -*Sulfur fluoride*



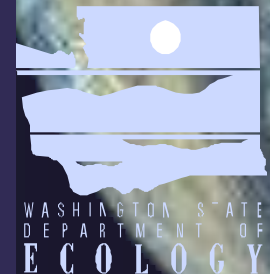
Sources of Emissions

Direct Emissions

1. Direct Construction
2. On-Site Mobile Sources and Company Owned VMT
3. Stationary Sources and Direct Facility Emissions
4. Fugitive Emissions
5. Direct Agricultural Emissions
6. Forestry Conversion and other land or Aquatic Vegetation Disturbance
7. Direct emissions from maintenance activities

Indirect Emissions

1. Off-Site Extraction of Purchased Materials
2. Off-site Processing of Purchased Materials
3. Transportation of purchased materials
4. Employee Commute VMT
5. Other Indirect VMT
6. Purchased electricity
7. Water Use and Off-Site Wastewater Disposal.
8. Off-Site Solid Waste
9. End-use emissions from use of product



Vulnerability and Adaptation

- *Vulnerability* and *adaptation* are new terms for SEPA's procedural framework.
- SEPA can address the *vulnerability* climate change impacts of a proposal
 - analyzing how changes in the existing environment combined with the proposed actions will create additional consequences to the natural and built environment.
 - Vulnerability* in this context is a type of cumulative impact –one that both the proposal contributes to and is affected by



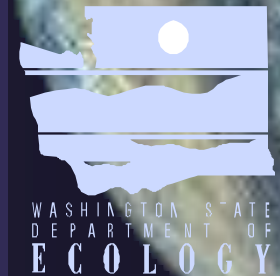
Vulnerability Impacts

- Certain projects may be particularly vulnerable to climate change, which may in turn exacerbate other environmental impacts of the project
- These vulnerability impacts, if reasonably foreseeable, may be subject to SEPA analysis:
 - Frequent flooding and increased stormwater pollution
 - Precipitation changes and decreased water supply



Mitigation for Climate under SEPA

- Quantify or qualitatively assess emissions linked to the project
- Determine whether those emissions are significant
- If significant:
 - Must require mitigation below level of significance before (M)DNS can issue---OR---
 - Must prepare an EIS
- Agency can use substantive SEPA authority to mitigate GHG emissions if it has applicable policies



Mitigation Examples

- Ecology's "Working Paper" and "Table of Tools" includes mitigation options
- "Avoidance and Minimization" approaches are emphasized because of ease of assessing reduction of impact
 - Project Actions
 - *Site Design*
 - *Building Design and Operations*
 - Project and Non-Project
 - *Transportation*
 - Non-Project Actions
 - *Transportation and Energy Efficiency*



Threshold Determination

- Emissions and vulnerability can be individually limited but cumulatively considerable
- Follow general criteria in WAC 197-11-330
- Provide examples of methodologies, etc.
- Use existing laws, regulations, and policies as references –but not a total substitute for some case by case analysis and disclosure



For more information...

Ecology's SEPA and Climate Change Website:
www.ecy.wa.gov/climatechange/sepa.htm

Table of Tools:

<http://www.ecy.wa.gov/climatechange/docs/sepa/tools.pdf>

Additional Resources:

http://www.ecy.wa.gov/climatechange/sepa_resources.htm



Cascade Bicycle Club, Futurewise, & Sierra Club appeal of Transportation 2040

Tim Trohimovich
Co-Director of Planning & Law
Futurewise

206-343-0681 Ext. 118

tim@futurewise.org

April 2011

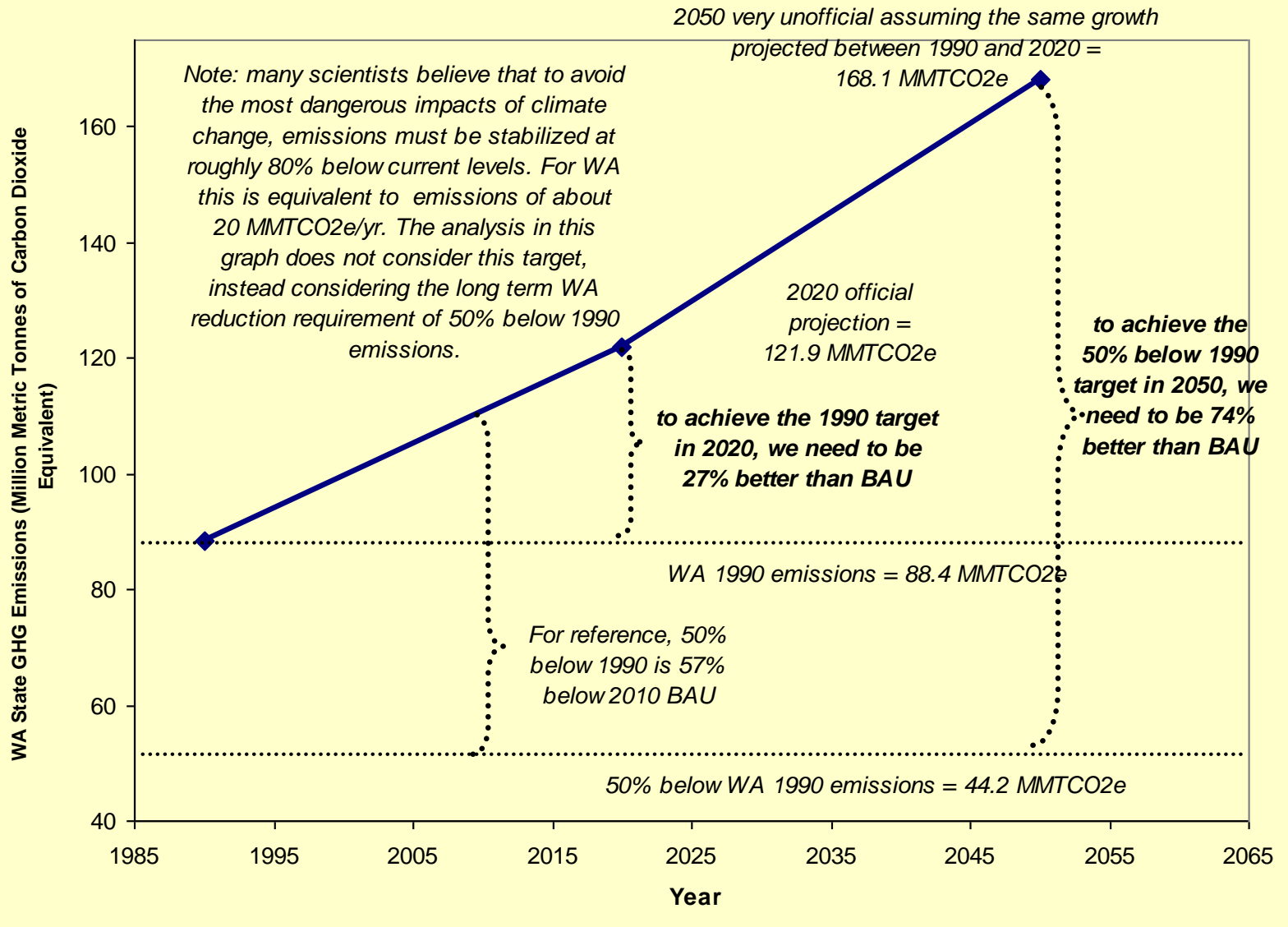


Status of Transportation 2040 Appeal

- An agreed record has been provided to King County Superior Court electronically
- Cascade Bicycle Club, Sierra Club, and Futurewise Opening Brief was filed Jan. 14, 2011
- PSRC Response Brief filed March 25th
- Cascade Bicycle Club optional reply due April 29th
- PSRC optional reply is due May 20th
- Hearing in May or June, we hope
- July or August decision, we hope

Issue 1: T2040 does not comply with RCW 70.235.020

- (1)(a) The state shall limit emissions of greenhouse gases to achieve the following emission reductions for Washington state:
 - (i) By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels;
 - (ii) By 2035, reduce overall emissions of greenhouse gases in the state to twenty-five percent below 1990 levels;
 - (iii) By 2050, the state will do its part to reach global climate stabilization levels by reducing overall emissions to fifty percent below 1990 levels, or seventy percent below the state's expected emissions that year.
- b) By December 1, 2008, the department shall submit a greenhouse gas reduction plan for review and approval to the legislature, describing those actions necessary to achieve the emission reductions in (a) of this subsection by using existing statutory authority and any additional authority granted by the legislature. Actions taken using existing statutory authority may proceed prior to approval of the greenhouse gas reduction plan.



Issue 1: T2040 does not comply with RCW 36.70A.235.020

Dictionary definition of state includes PSRC because state means government

Dictionary definition just includes the US

PSRC is part of a comprehensive state transportation planning system

PSRC is a voluntary association, state is given responsibility for the state transportation plan

Separate state agency standards

Shows that the statewide standards do not apply to agencies or PSRC

Issue 1: T2040 does not comply with RCW 36.70A.235.020

Transportation 2040 does not meet the reductions

Does not apply to Transportation 2040

“Actions taken using existing statutory authority may proceed” prior to reduction plan

Not self enforcing, needs legislative approval of GHG reduction plan

T2040 applied proportionate limits, could have used another method

Does not set proportionate limits, ignores central role of cap and trade program and other transportation emissions

Issue 2: EIS does not comply with SEPA

EIS does not disclose
violation of RCW
70.235.020

Does not apply to
Transportation 2040 &
Decision makers knew

Alternative meeting the
reductions requirements
should have been
included

No such alternative
EIS includes a
reasonable range of
alternatives and
mitigations

Take Homes

- Does RCW 70.235.020 apply to local governments and MPOs/RTPOs?
 - I think so, but have to wait and see
- Should local governments disclose emissions?
 - Yes, always safer
- Should local governments try to reduce emissions?
 - Yes
 - BP West Coast Products, LLC (BP) Clean Fuels MDNS condition requires \$4,376,226 to be paid to the Northwest Clean Air Agency to mitigate its impacts. \$1.60 per metric tonne
- Ecology now projects:
 - Policies already being implemented in Washington will limit emissions growth to 3 percent by 2020
 - But, state is not on track to meet its statutory reduction limit for 2020 or beyond

Resources

- Ecology Climate Change webpage:
<http://www.ecy.wa.gov/climatechange/index.htm>
- Greenhouse Gas Emissions and SEPA webpage:
<http://www.ecy.wa.gov/climatechange/sepa.htm>
- Washington State Department of Commerce's webpage for its final Greenhouse Gas Emissions Planning Tools report:
<http://www.commerce.wa.gov/site/1277/default.aspx>
- Futurewise: www.futurewise.org

SEPA and GHG Emissions: A Local Jurisdiction's Approach



PLANNING LAW CONFERENCE
APRIL 26, 2011
CATHY BEAM, AICP
PRINCIPAL PLANNER, CITY OF REDMOND

Implementation at the Local Level



- **PROJECT ACTIONS**
- **NON-PROJECT ACTIONS**

SEPA

- **TOOL USED TO QUANTIFY OR QUANTITATIVELY ASSESS GREENHOUSE GAS EMISSIONS**
- **CHECKLIST USED TO IDENTIFY AND DISCLOSE SOURCES OF GREENHOUSE GAS EMISSIONS**



PROJECT ACTIONS

- Use GHG Emissions Excel spreadsheet to quantify emissions
- Disclose GHG emissions under Section B.2.a (Air) of SEPA checklist
- Verify on GHG Data Worksheet during building permit process



GHG Emissions Spreadsheet



Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home.....	0		98	672	792	0
Multi-Family Unit in Large Building	0		33	357	766	0
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home.....	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other Than Mall).....		0.0	39	577	247	0
Office		0.0	39	723	588	0
Public Assembly		0.0	39	733	150	0
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		0.0	39	1,278	257	0
Vacant		0.0	39	162	47	0

Section II: Pavement.....

Pavement.....		0.00				0
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Total Project Emissions:

0

SEPA Checklist (B.2.a/c)



What types of emissions to the air would result from the proposal (i.e. dust, automobile, odors, industrial wood smoke, and **greenhouse gases**) during construction and when the project is completed. If any, generally describe and give approximate quantities if known.

Proposed measures to reduce or control emissions or other impacts to air, if any:

GHG Data Worksheet



CITY OF REDMOND DATA WORKSHEET FOR VERIFICATION OF GHG DATA Applicable to Residential and Non-Residential Development

Please complete the following worksheet to assist City staff in verifying the data provided for the purpose of calculating GHG emissions from your proposed project. If you have questions about completing this form, please contact your project Planner or, if one has not been assigned, call 425-556-2494 to speak to the Planner on call.

Project Name: _____

Project Address or Parcel Number: _____

Building Permit Number _____ (to be determined at intake)

Related Land-use Permit Number: _____

The purpose of this worksheet is to verify data provided to the City during the entitlement phase of the project; which was used to issue a SEPA threshold determination. Verification is required to ensure that there are no significant changes to the project which would impact the SEPA threshold determination issued by the City.

Instructions for Completing Worksheet

Building Activity: Select the Building activity which classifies your project.

of Dwelling Units to be constructed: Include the number of dwelling units for your project, this is only applicable for residential or mixed-use projects with a residential component

of Buildings to be constructed: Include the number of buildings to be constructed; this is only applicable for commercial, office, industrial, or non-residential uses and mixed-use projects which have a non-residential component.

Table 1: GHG Data

Building Activity	# of Dwelling Units to be constructed	# of Buildings to be constructed	Square Footage of buildings being added	Square footage of pavement being added
Residential Uses				
Single-Family Home				
Multi-family Unit in Large Building (> 5 units)				
Multi-family Unit in Large Building (< 5 units)				
Mobile Home				
Non-Residential Uses				
Education				
Food Sales				
Food Service				
Health Care Inpatient				
Health Care Outpatient				
Lodging				
Retail (Other than Mall)				
Office				
Public Assembly				
Public Order and Safety				
Religious Worship Service				
Warehouse and Storage				
Other				
Vacant				

GHG Data Tracking Worksheet



Date of Listing	Name of Project	File Number	Permit Type	Subtype	Parcel Number	Zoning	Type of Residential or Principal Activity	Number of Units	Total Square Feet of Buildings	Total Square Feet of Paving	Lifespan GHG Emissions (MTCO2e)	Note	Served by Transit?	Amount of Parking (stalls)	Lot Size?	% of lot covered by Impervious surface
02/21/08	Lin Li Short Plat	L070543	PLN_II	SHORT	642110-0522	R-5	Single-Family Home	1	1,800	-	1,562	dividing plat and adding one additional SFH.	no	2	.36 acres	21%
03/03/08	Dana Point Short Plat	L080053	PLN_II	SHORT	389510-0045	R-5	Single-Family Home	6	-	-	9,371		no	22	1.16 acres	60%
03/12/08	Park East/Pomegranate bistro	L070259	PLN_VI	DGATEXT	072506-9023	MP	Other	0	0	0	0	text amendment to allow additional resaurant seating MP Zone	n/a	n/a	n/a	n/a
03/12/08	Amendments to home bus regs	L080061	PLN_VI	DGATEXT	Citywide		Other	0	0	0	0	non project action, amend the RCDG	n/a	n/a	n/a	n/a
03/20/08	Beaver Dam Removal	L080063	PROJECT	-	Citywide	n/a	Other	0	0	0	0	Dismantle beaver dams as needed on Class 2, 3 and 4 streams	n/a	n/a	n/a	n/a
03/27/08	Grass Lawn Park Phase IV	L080083	PROJECT	-	102505-9007	R-5	Other	0	0	6,900	3,450	No building, Softball fields 2 & 3	yes	n/a	n/a	n/a
04/23/08	Parking Text Amendment for GDD	L080103	PLN_VI	DGATEXT	702023-0010	GDD 1	Other	0	0	0	0	nonproject action: text amendment	n/a	n/a	n/a	n/a
05/05/08	Nickolson Properties	L080048	PLN_III	REASUSE	720000-2255	R-18	Multi-Family Unit in Small Building	19	-	-	28,503	19 attached dwelling units-townhomes	yes	38	4.1 acres	15%
05/13/08	Bear Creek Commons	L070423	PLN_II	SPE	062506-9015	BP	Office	0	90,432	-	122,024		yes	275	287944	40%
05/20/08	Sycamore Park	L080153	PLN_III	PLAT	252605-9141	R-4	Single-Family Home	12		560 sf	18,742	Innovative Housing Ordinance	no	31	1.6 acres	50%
05/23/08	Richardson Rezone	L080148	PLN_VI	DGACOMP	112505-9050-3		Other	0	0	0	0	nonproject action, rezone from R-12 to GC	n/a	n/a	n/a	n/a
06/05/08	Union Hill Rd/Avondale Rd	L080055	PLN_II	SHORE	none	BP	Other	0	0	171,000	8,550	widening of the intersection	n/a	n/a	2.37 acres	-



NON-PROJECT ACTIONS

- Disclose GHG emissions under Section D.1 of SEPA Supplemental Sheets
- Phased review
- Incorporate mitigating strategies into non-project action



SEPA Checklist (D.1)



“How would the proposal be likely to increase discharge to water; **emissions to air**; production, storage, or release of toxic or hazardous substances; or production of noise:

Proposed measures to avoid or reduce such increases are:

Mitigating Strategies



Land Use and Transportation

- Transit oriented development
- Complete streets
- Parking incentives and management
- Electric vehicle infrastructure
- Jobs/housing balance
- Low impact development
- Smart growth

Mitigating Strategies



Site Design and Location

- Preserve trees, replant trees
- Conserve and restore natural areas/critical areas on site
- Protect open space permanently

Building Design and Operation

- Green building practices and materials
- On-site renewable energy production
- Energy efficiency
- Water recycling and conservation

Approach



- **CURRENTLY TRACKING GHG EMISSIONS**
- **DEVELOPING POLICIES DURING THE COMPREHENSIVE PLAN UPDATE**
- **DEVELOPING A CLIMATE ACTION PLAN**
- **IMPLEMENT POLICIES AND PLAN**
- **MITIGATE PER POLICIES AND PLAN**

Contact Information:

Cathy Beam, AICP
Principal Planner
City of Redmond
425-556-2429
cbeam@redmond.gov