

**Test Case Worksheet for Emission Sources and Criteria**  
**REGIONAL TRANSPORTATION PLAN**

<b>Emissions Source</b>	<b>Examples</b>	<b>How source related to test case?</b>	<b>Addressed in another SEPA document?</b>	<b>Credibly measured or assessed?</b>	<b>Boundary Determined?</b>	<b>Importance to Climate Change Impacts?</b>	<b>Mitigation Available?</b>
<b>Direct Emissions</b>							
Construction	Generators and equipment exhaust, this includes off-site haul trucks during construction?	Construction of transportation projects developed as a result of plan	Addressed in project level document	Can be estimated	Yes	Modest in comparison to overall use of transportation system	NA
Mobile Sources and Direct VMT	Directly related to project (company generated) or non-project (all commuting, and commercial transportation (includes distance and type of transport).	All mobile source emissions are indirect, see below	NA	NA	NA	NA	NA
Stationary Sources and Direct Facility Emissions	On-site combustion processes usually from company-owned equipment.	NA	NA	NA	NA	NA	NA
Fugitive Emissions	Unintentional emissions, accidental releases such as leaks from industrial facilities, gas releases from drilling operations etc. GHG emitted from points other than tailpipes, vents, stacks, or other locations that can be collected.	NA	NA	NA	NA	NA	NA
Direct Agricultural Emissions	Livestock methane, land clearing, fertilizer application, and on-site manure handling.	NA	NA	NA	NA	NA	NA
Forestry Conversion and other land or aquatic vegetation disturbance	One-time soil-carbon emissions during land clearing, and permanent annual loss of CO <sub>2</sub> sink following removal of trees or vegetation.	Forestry conversion could be an issue if land converted for roadways.	Would also be addressed at project level	NA	NA	NA	NA
Maintenance activities	Emissions from equipment, chemicals	Roadway maintenance not considered at plan level	NA	NA	NA	NA	NA
<b>Indirect Emissions</b>							
Extraction of Materials	Off-site mining, timber mining/extraction, petroleum products (e.g. fuel and plastic products) for products and materials that are used by the proposal.	Materials extracted to construct transportation projects resulting from plan	Could be addressed by extractor. May be discussed at project level	No. Materials for specific projects undefined at the plan level.	No		No
Processing of materials	Energy used and emissions from processing raw materials or end products for a proposal (e.g. cement, metals, plastics, wood, fuel).	Materials processed to construct transportation projects resulting from	Could be addressed by processor. May be discussed at project level	No. Materials needed for specific projects undefined at the plan level.	No		No

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		plan					
Transportation of materials	Delivery of raw materials to the facility by non-company-owned trucks, and shipment of produced product from the facility by non-company-owned trucks.	Materials transported to construct transportation projects resulting from plan.	Because all transportation in region is included, transportation of construction materials within region is included in plan. Materials transport to the region is not included, but would be covered in appropriate region's plans.	Unable to differentiate emissions attributable to transportation of materials for projects resulting from plan. The supplier for specific projects is not chosen at a plan level; delivery distances can't be projected. Regional estimates might be relevant.	No	Transport of materials for transportation infrastructure construction minimal compared to overall transportation emissions.	No
Employee Commute VMT	Tailpipe emissions from employee commuting	Included in indirect VMT	NA	NA	NA	NA	NA
Other Indirect VMT	Traffic from associated development, indirect change in traffic pattern, customer VMT (vs. company owned), associated public services (parks, emergency response)	Mobile source emissions are the focus of transportation plan	Mobile sources could be addressed in plans at multiple levels	Regional Travel Demand Models examine population growth and VMT. Mobile source emissions most reliably assessed at plan level	Yes	This is the level to make decision on the nature of transp system developed, types of projects that are pursued, and evaluate GHG effects.	Yes, consider alternate projects/ programs for transportation system.
Energy Use	Usually purchased energy from off-site energy power plants.	Electricity for transport only an issue if evaluating increase in electric vehicles.	NA	NA	NA	NA	NA
Water Use and Wastewater Disposal	Quantity used during construction, operation and closure, -energy used to provide water and dispose of polluted water. GHG emitted from off-site pump stations and water treatment plants for water used by proposal. GHG emitted from off-site sewage lift stations and POTWs used to convey and treat wastewater from the proposed SEPA facility. This includes fugitive methane from POTWs. It does not include biogenic CO2 emitted from POTWs.	NA	NA	NA	NA	NA	NA
Solid Waste	Emissions from disposal (usually off-site) of all types of waste (construction, agriculture, general trash, food). Could include tailpipe emissions from trucks and trains used to collect refuse and haul it to the disposal site and off-site emissions from pre-processing of solid waste (e.g., transfer stations), and	NA	NA	NA	NA	NA	NA

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	fugitive methane emissions from solid waste landfills. It does NOT include biogenic CO2 emissions from solid waste disposal facilities.						
End-use emissions from product use	Use and disposal of products by consumers, industry etc. This could include emissions generated from combustion of fuels manufactured or distributed by the proposed facility.	Use of transportation system part of indirect mobile emissions	NA	NA	NA	NA	NA

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**TRANSPORTATION PROJECT: Widen county road from 2 to 4 lanes, fill in wetland, project is due to regional population growth**

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<b>Direct Emissions</b>							
Construction	Generators and equipment exhaust, this includes off-site haul trucks during construction?	Construction of new lanes	No	Energy use is estimated based on construction costs	Direct emissions emitted from fuel used	Modest compared to use of roadway	Alternative fuels, improve fuel efficiency of equipment, how equipment is used
Mobile Sources and Direct VMT	Directly related to project (company generated) or non-project (all commuting, and commercial transportation (includes distance and type of transport)).	Vehicles traveling on this section of roadway, changes in travel patterns on connecting road network – really an indirect source.	Yes, planning level document	No, difficult to discern effects of single project on roadway network	Difficult to discern boundaries of effects of single project on roadway network	Important source to reduce. Choices about transportation system best made at plan level.	Difficult to mitigate single transportation project. Decisions made at planning level determine nature of roadway network.
Stationary Sources and Direct Facility Emissions	On-site combustion processes usually from company-owned equipment.	NA	NA	NA	NA	NA	NA
Fugitive Emissions	Unintentional emissions, accidental releases such as leaks from industrial facilities, gas releases from drilling operations etc. GHG emitted from points other than tailpipes, vents, stacks, or other locations that can be collected.	NA	NA	NA	NA	NA	NA
Direct Agricultural Emissions	Livestock methane, land clearing, fertilizer application, and on-site manure handling.	NA	NA	NA	NA	NA	NA
Forestry Conversion and other land or aquatic vegetation disturbance	One-time soil-carbon emissions during land clearing, and permanent annual loss of CO <sub>2</sub> sink following removal of trees or vegetation.	Filling in wetland removes sink	No	Estimated based on size and quality of wetland lost	Yes		Wetland loses are already mitigated.
Maintenance activities	Emissions from equipment, chemicals	Maintenance of roadway and roadside	No	No	Difficult to determine maintenance for small section of roadway	Minimal.	Direct emissions from roadway maintenance reported in WSDOT emissions inventory.
<b>Indirect Emissions</b>							
Extraction of	Off-site mining, timber mining/extraction, petroleum products (e.g. fuel and plastic products)	Materials used to	Extraction emissions	Difficult to determine	What emissions are		Use alternate materials,

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Materials	for products and materials that are used by the proposal.	construct new lanes, e.g., asphalt, concrete	may be captured in extractor's environmental documents.	emissions from extraction that could occur at many places.	included as part of extraction? Difficult to know where to stop.		alternate vendor with lower emissions. Extractor emissions may be regulated under cap and trade system.
Processing of materials	Energy used and emissions from processing raw materials or end products for a proposal (e.g. cement, metals, plastics, wood, fuel).	Materials used to construct new lanes, e.g., asphalt, concrete	Processing emissions may be captured in processor's environmental documents.	Difficult to determine emissions from processing that could occur at many places.	What emissions are included as part of extraction? Difficult to know where to stop.		Use alternate materials, alternate vendor with lower emissions. Processing emissions may be regulated under cap and trade system.
Transportation of materials	Delivery of raw materials to the facility by non-company-owned trucks, and shipment of produced product from the facility by non-company-owned trucks.	Fuel used to deliver materials to construction site	All transportation emissions would be captured in transportation plan	Difficult to determine emissions specifically related to materials transported for single project. What about transportation of parts prior to assembly?	Difficult to determine boundary. Where do you stop?		Use locally extracted, processed, manufactured materials, if available.
Employee Commute VMT	Tailpipe emissions from employee commuting	Commute to construction site	All transportation emissions would be captured in transportation plan			Minimal	Encourage alternative transportation modes: carpooling, transit, shuttle bus, work schedules
Other Indirect VMT	Traffic from associated development, indirect change in traffic pattern, customer VMT (vs. company owned), associated public services (parks, emergency response)	Adding new road could encourage yet more development in area. Induced growth	Likely addressed in planning documents: transportation plan, comp plan, etc.	Unable to measure at project level	Difficult to determine boundary.		Planning level most effective place to make transportation and land use choices.
Energy Use	Usually purchased energy from off-site energy power plants.	NA	NA	NA	NA	NA	NA
Water Use and Wastewater Disposal	Quantity used during construction, operation and closure, -energy used to provide water and dispose of polluted water. GHG emitted from off-site pump stations and water treatment plants for water used by proposal. GHG emitted from off-site sewage lift stations and POTWs used to convey and treat wastewater from the proposed SEPA facility. This	NA	NA	NA	NA	NA	NA

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	includes fugitive methane from POTWs. It does not include biogenic CO2 emitted from POTWs.						
Solid Waste	Emissions from disposal (usually off-site) of all types of waste (construction, agriculture, general trash, food). Could include tailpipe emissions from trucks and trains used to collect refuse and haul it to the disposal site and off-site emissions from pre-processing of solid waste (e.g., transfer stations), and fugitive methane emissions from solid waste landfills. It does NOT include biogenic CO2 emissions from solid waste disposal facilities.	NA	NA	NA	NA	NA	NA
End-use emissions from product use	Use and disposal of products by consumers, industry etc. This could include emissions generated from combustion of fuels manufactured or distributed by the proposed facility.	Emissions from use of roadway	See Mobile Sources above.	NA	NA	NA	NA