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13.15	Basic Controls for Exhaust and Evaporative Emissions	U.S. EPA, 1994	
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13.17	Hymotion L5 Lithium Power Specifications	Argonne National Lab, 2007; Hymotion, Inc., 2007	<a href="http://www.a123systems.com/hymotion">http://www.a123systems.com/hymotion</a>
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14.2	Alternative-Fuel Filling Stations, July 2007	U.S. DOE, Alternative Fuel Database, 2007	<a href="http://www.afdc.energy.gov/afdc/data/index.html">http://www.afdc.energy.gov/afdc/data/index.html</a>
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14.13	Iogen Corporation's Demonstration Cellulose-to-Ethanol Plant in Ottawa	Iogen Corp.	<a href="http://www.ioegen.ca/company/about/index.html">http://www.ioegen.ca/company/about/index.html</a>
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15.3	U.S. Rail Transit Ridership and Largest Systems, 2004	APTA, 2006	<a href="http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf">http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf</a>
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15.2	U.S. Transit Ridership, 1900-2005	APTA, 2006	<a href="http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf">http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf</a>
15.3	Types of Rail Transit Systems: Commuter, Heavy, Light	APTA, 2006	<a href="http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf">http://www.apta.com/research/stats/factbook/documents08/2008_fact_book_final_part_1.pdf</a>
15.4	Household Distance to Transit	APTA, 2007	
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15.7	Chicago Area CO2 Emission	Travel Matters	<a href="http://www.travelmatters.org">www.travelmatters.org</a>
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15.29	ICLEI Example Savings by Measure	Burroughs, et al., 2006	<a href="http://www.iclei.org/index.php?id=8154">http://www.iclei.org/index.php?id=8154</a>
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18.7	Boulder Green Points Program	Boulder, 2008	<a href="http://www.bouldercolorado.gov/index.php?option=com_content&amp;task=view&amp;id=207&amp;Itemid=2173">http://www.bouldercolorado.gov/index.php?option=com_content&amp;task=view&amp;id=207&amp;Itemid=2173</a>
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18.12	Green Pricing	Green Power Network, 2006	<a href="http://apps3.eere.energy.gov/greenpower/">http://apps3.eere.energy.gov/greenpower/</a>
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18.22	Puget Sound Roadmap (a) CO2 Emissions Baseline and (b) Savings from Various Actions	PSCAA, 2004	<a href="http://www.pscleanair.org/programs/climate/">http://www.pscleanair.org/programs/climate/</a>
18.23	Sacramento Region Blueprint 2030 Transportation and Land Use Scenarios	SACOG, 2005	<a href="http://www.sacgp.org/sacramento_2030.html">http://www.sacgp.org/sacramento_2030.html</a>
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