

## Transmission and Distribution CIP Projects 2017-2022

### Transmission Projects CIP Detail

\$ Millions	2017	2018	2019	2020	2021	2022	Total
<b>TRANSMISSION TOTAL</b>	<b>19</b>	<b>15.9</b>	<b>6.9</b>	<b>9.7</b>	<b>45.7</b>	<b>4.3</b>	<b>101.5</b>
<b>B1: Transmission</b>	<b>19</b>	<b>15.9</b>	<b>6.9</b>	<b>9.7</b>	<b>45.7</b>	<b>4.3</b>	<b>101.5</b>
7011: Transmission Capacity	0	0	0	0	0	0	0.1
7104: Transmission Reliability	2.6	2.9	3	3.1	2.7	3.7	18.1
7105: Transmission Inter-Agency	0.5	0.6	0.6	0.6	0.6	0.6	3.6
7125: Denny Substation Transmission Lines	7.3	4.7	2.2	6	42.4	-	62.5
8461: Transmission Line Inductor Installation	5.8	6.1	1	-	-	-	12.9
8462: Transmission Line Reconductoring	2.8	1.5	-	-	-	-	4.3

### Distribution Projects CIP Detail

\$ Millions	2017	2018	2019	2020	2021	2022	Total
<b>DISTRIBUTION TOTAL</b>	<b>257.1</b>	<b>191.3</b>	<b>179.2</b>	<b>171</b>	<b>193</b>	<b>203.4</b>	<b>1,195.0</b>
<b>C1: Substations</b>	<b>80.3</b>	<b>33.2</b>	<b>25.6</b>	<b>25.4</b>	<b>27.3</b>	<b>27.6</b>	<b>219.5</b>
7121: Replace Breakers BPA Covington and MV Substations	0	0	0	0	0	0	0.1
7750: Substation Plant Improvements	0.8	0.9	0.9	0.9	1.2	1.5	6.3
7751: Substation Capacity Additions	1.7	2	2.1	2.4	2	2.1	12.4
7752: Substation Equipment Improvements	4.7	5.9	6.7	6.7	6.5	6.1	36.6
7753: Relaying Improvements	3.6	4.5	5.5	4.5	4.8	4.9	27.8
7756: Interbay Substation – Development	-	-	0.1	0.1	0.4	0.5	1.0
7757: Denny Substation Development	56.4	9.5	-	-	-	-	65.9
7776: Substation Transformer Replacements	2	2.5	2.6	3.6	4.9	4.7	20.4
7779: Substation Breaker Replacements and Reliability Additions	5.7	4.8	5.6	5.1	6	5.9	33
7783: Substations Oil Containment	0.3	0.3	0.3	0.3	0.2	0.6	2.2
8424: Substation Automation	1.2	1.4	1.7	1.7	1.3	1.3	8.6
9235: Denny Substation Tenant Improvements	3.8	1.4	0	-	-	-	5.2
<b>C2: Network</b>	<b>46.1</b>	<b>22.9</b>	<b>22</b>	<b>31</b>	<b>42.3</b>	<b>39</b>	<b>203.3</b>
8129: Network Hazeltine Upgrade	0.5	0.5	0.6	0.8	0.7	0.7	3.9
8130: Network Maintenance Hole and Vault Rebuild	3.1	3.5	3.5	3.5	3.6	2.6	19.9
8201: Union Street Substation Networks	2.3	2.6	2.6	2.7	2.9	3	16.1
8202: Massachusetts Street Substation - Networks	3.7	3.9	4	4.4	3.1	4.7	23.8
8203: Broad Street Substation - Network	8.3	3.2	3.7	4.6	9	3	31.8
8301: First Hill - Network	2.4	2.6	2.7	2.7	2	5.1	17.5
8404: Denny Substation - Network	25.3	6.2	3.6	10.9	12.4	11.2	69.8
8407: First Hill - Network Load Transfer	-	-	0.9	0.9	7.9	8.1	17.8
8464: University Substation - Network	0.4	0.4	0.4	0.5	0.5	0.5	2.6

(over)

<b>\$ Millions</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
<b>C3: Radial</b>	<b>55</b>	<b>54.6</b>	<b>63.3</b>	<b>62.8</b>	<b>67.4</b>	<b>74.2</b>	<b>377.3</b>
8322: Dallas Ave. 26 kV Crossing	0	0.1	0	0	0	-	0.2
8351: Overhead Equipment Replacements	17.4	18.2	25.4	25.7	23.5	25.2	135.2
8353: Underground Equipment Replacements	11	10.3	10.4	8.6	14.8	16.8	72
8355: Overhead Customer Driven Capacity Additions	3.5	4.3	5	5.6	4	6	28.5
8356: Overhead System Capacity Additions	2.5	2.6	2.6	2.6	3.4	3.4	17
8358: Overhead 26kV Conversion	1.6	1.7	1.7	1.8	1.8	1.4	10
8360: Underground Customer Driven Capacity Additions	2	2.2	2.4	2.3	2.3	3.7	14.8
8361: Underground System Capacity Additions	2.7	2.9	3	2.4	4.3	4.3	19.6
8362: Underground 26kV Conversion	1.5	2	2.5	2.5	2.7	4.1	15.4
8373: Laurelhurst - Underground Rebuild	0.1	-	-	-	-	-	0.1
8425: Distribution Automation	3.5	2.2	2.8	2.9	2.9	1.4	15.6
8429: Mobile Workforce Implementation	2.7	1.6	1.2	1.3	-	-	6.8
8452: Pole Attachment Requests Preparation Work	3.3	3.6	3.6	4	4.5	4.6	23.6
8465: Broadband - City Light	2.5	2.7	2.8	3.1	3.2	3.2	17.5
9950: Automated Utility Design Implementation	0.6	0.1	-	-	-	-	0.7
<b>C4: Service Connections</b>	<b>64.3</b>	<b>67</b>	<b>52.6</b>	<b>40.2</b>	<b>43.5</b>	<b>53.5</b>	<b>321.0</b>
8054: Meter Additions	2.1	2.3	2.6	2.7	2.8	3	15.6
8350: Overhead Outage Replacements	0.3	0.3	0.5	1	1	1.1	4.1
8352: Underground Outage Replacements	1.1	1.2	1.5	2	2	1.7	9.4
8363: Network Adds & Services: Broad Street Substation	6	6.8	6.8	6.9	7.1	7	40.6
8364: Network Adds and Svcs: First Hill, Mass, Union & Univer	3.7	2.9	3	3	3.5	3.6	19.8
8365: Large Overhead and Underground Services	2.7	3	4.2	3.2	5	6.4	24.6
8366: Medium Overhead and Underground Services	12.8	14.3	11.3	11.1	8.8	14.3	72.5
8367: Small Overhead and Underground Services	5.7	6.3	5.5	5.4	5.3	6.7	34.9
8379: Normal Emergency	0.5	0.6	1.3	1.3	2.5	2.5	8.8
8380: Major Emergency	0.2	0.3	0.3	0.3	1.4	1.5	3.9
8405: Network Additions and Services - Denny	2.1	2.7	2.7	2.5	3.1	4.9	18
8426: Advanced Metering Infrastructure	27.1	26	12.2	-	-	-	65.2
8483: Vista Switch Automation	-	0.4	0.8	0.8	0.8	0.8	3.6
<b>C5: Distribution Other</b>	<b>11.3</b>	<b>13.7</b>	<b>15.7</b>	<b>11.5</b>	<b>12.5</b>	<b>9.2</b>	<b>73.9</b>
8484: Battery Storage Pilot	0.5	0.5	0.5	0.5	0.5	0.5	3
8485: Special Work Equipment - Tech Metering	0.2	0.2	0.2	0.2	0.2	0.2	1.3
9009: Communications Improvements	1	0.9	0.9	0.9	1	0.8	5.5
9102: Special Work Equipment - Other Plant	1	1.1	1.1	1.2	1.2	1.2	6.8
9108: Transmission & Generation Radio Systems	1.1	1.3	0.7	0.9	1	1	6.1
9202: Security Improvements	2.8	2.2	2.2	2.2	2.3	2.3	14
9307: Distribution Area Communications Networks	1	2.7	2.5	2.9	2.8	2	13.8
9956: Energy Management System	0.4	-	-	-	-	-	0.4
9957: Enterprise Geographic Information System	3	4.7	2.5	-	-	-	10.3
9965: Tool Room Automation	0.4	-	-	-	-	-	0.4
9966: Distribution Management System	-	-	5	2.7	0.2	-	7.9
9968: Asset Investment and Optimization	-	-	-	-	3.4	1.1	4.5