

2.6 Water Demand Projections

Projecting future water demand is a key part of the water system planning process. Demand projections are used to identify system improvements such as supply, pumping, storage, and piping requirements.

This section summarizes the ADD and MDD projections developed for the District's water system from historical water demand trends and future demographic growth assumptions. Demand projections are presented as a range in demands that may be experienced in the future.

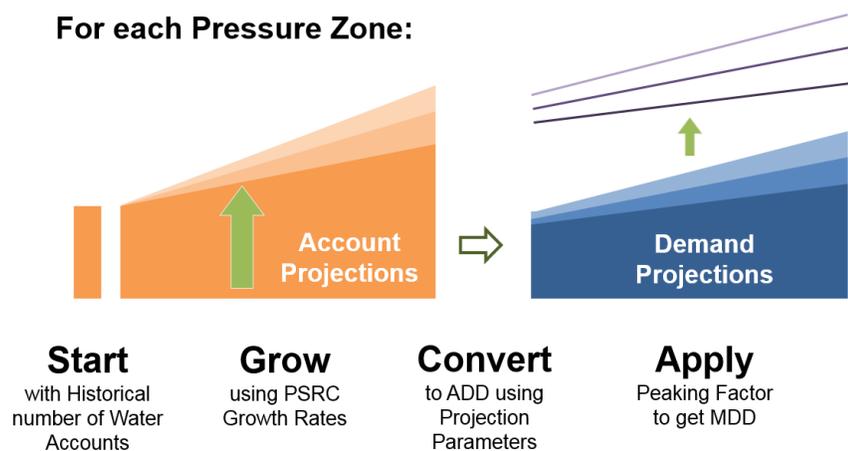
Low, medium, and high water demand projection scenarios were developed by adjusting various demand projection parameters. The medium demand projection scenario was used for the system analysis described in Section 5, which determined future pumping storage and distribution system deficiencies and identified potential improvements to achieve the District's established capacity criteria. The low and high projection scenarios give a sense of the possible range of future demands.

2.6.1 Demand Projection Methodology

For this analysis, the water demand projections were developed in the following steps, which are also summarized in Figure 2.12:

1. Grow historical water account numbers for each pressure zone, shown in Table 2.3, by the zone-specific residential and non-residential growth rates from the demographic analysis. Table 2.11 and Table 2.12 show the resulting account projections for the PSRC Growth Scenario and the Reduced Growth Scenario, respectively. For the high demand projection scenario, the PSRC Growth Scenario was used, while the Reduced Growth Scenario was used for the low and medium demand projection scenarios.
2. Convert account projections into ERU projections and then ADD projections using demand projection parameters derived from historical data consisting of the District's ERU value, urban and rural SFR scaling factors, Other Authorized Use, DSL, and large consumer demand.
3. Apply the MDD to ADD peaking factor to convert ADD to MDD.

For each Pressure Zone:



$$\sum \text{Pressure Zone Demands} = \text{Total System Demand.}$$

Figure 2.12 Demand Projection Methodology