



WATER  **TOMORROW**
2020 Integrated Resources Plan

Preliminary Assumptions and Gap Analysis for IRP Scenarios A, B, C and D

IRP Technical Workgroup Meeting

November 24, 2020

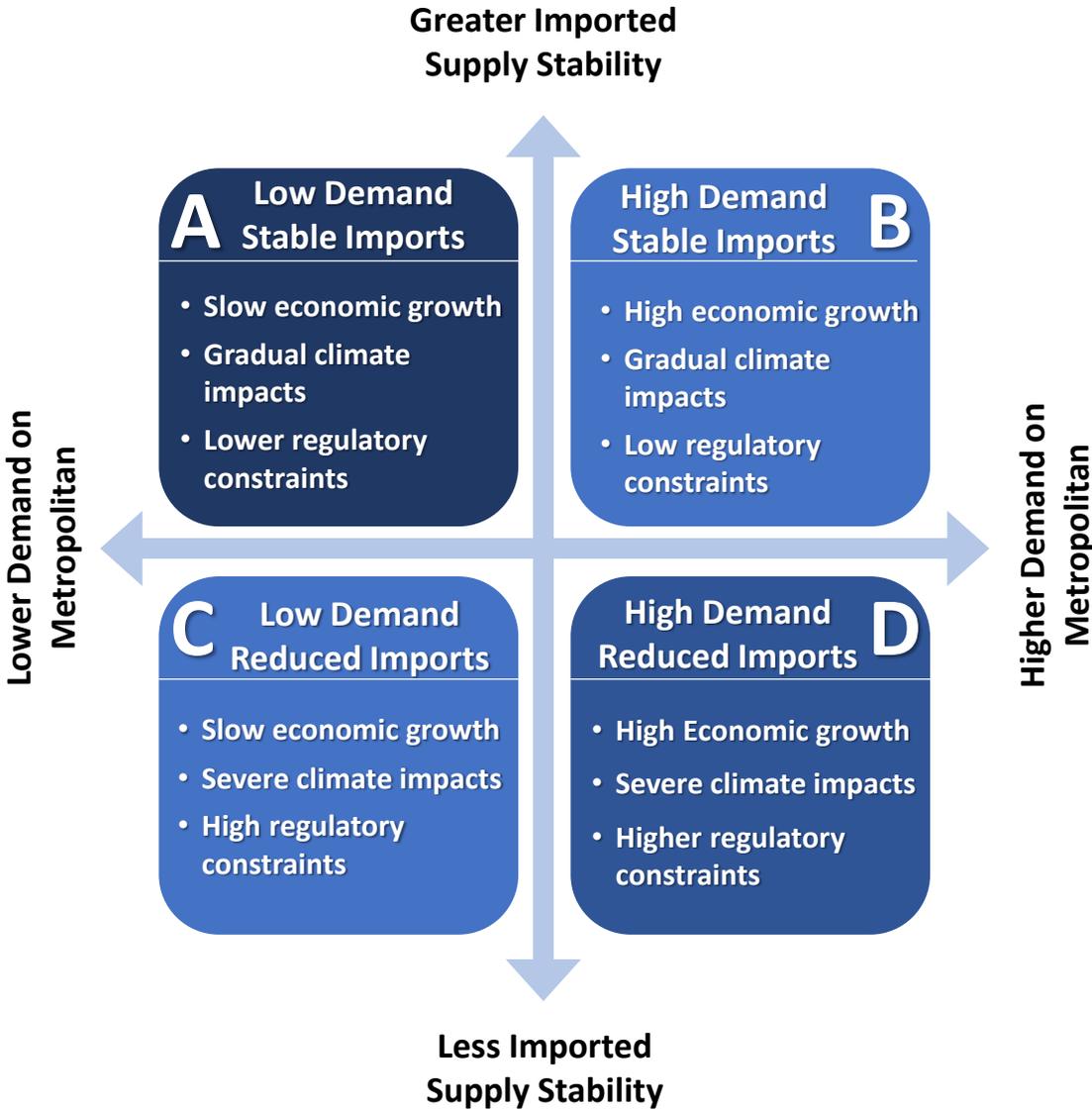
OVERVIEW

- Recent Activity
- Preliminary Assumptions and Gap Analysis
- Discussion and Feedback on Assumptions and Engaging the Demand Experts

2020 IRP RECENT ACTIVITY

- Oct 16 – Member Agency Managers Meeting
 - Assumptions and Initial results for Scenarios A and D
- Oct 27 – IRP Special Committee Meeting
 - Draft Scenarios
- Nov 13 – Member Agency Managers Meeting
 - Assumptions and Initial results for Scenarios B and C

2020 IRP - PROGRESS ON PRELIMINARY ANALYSIS

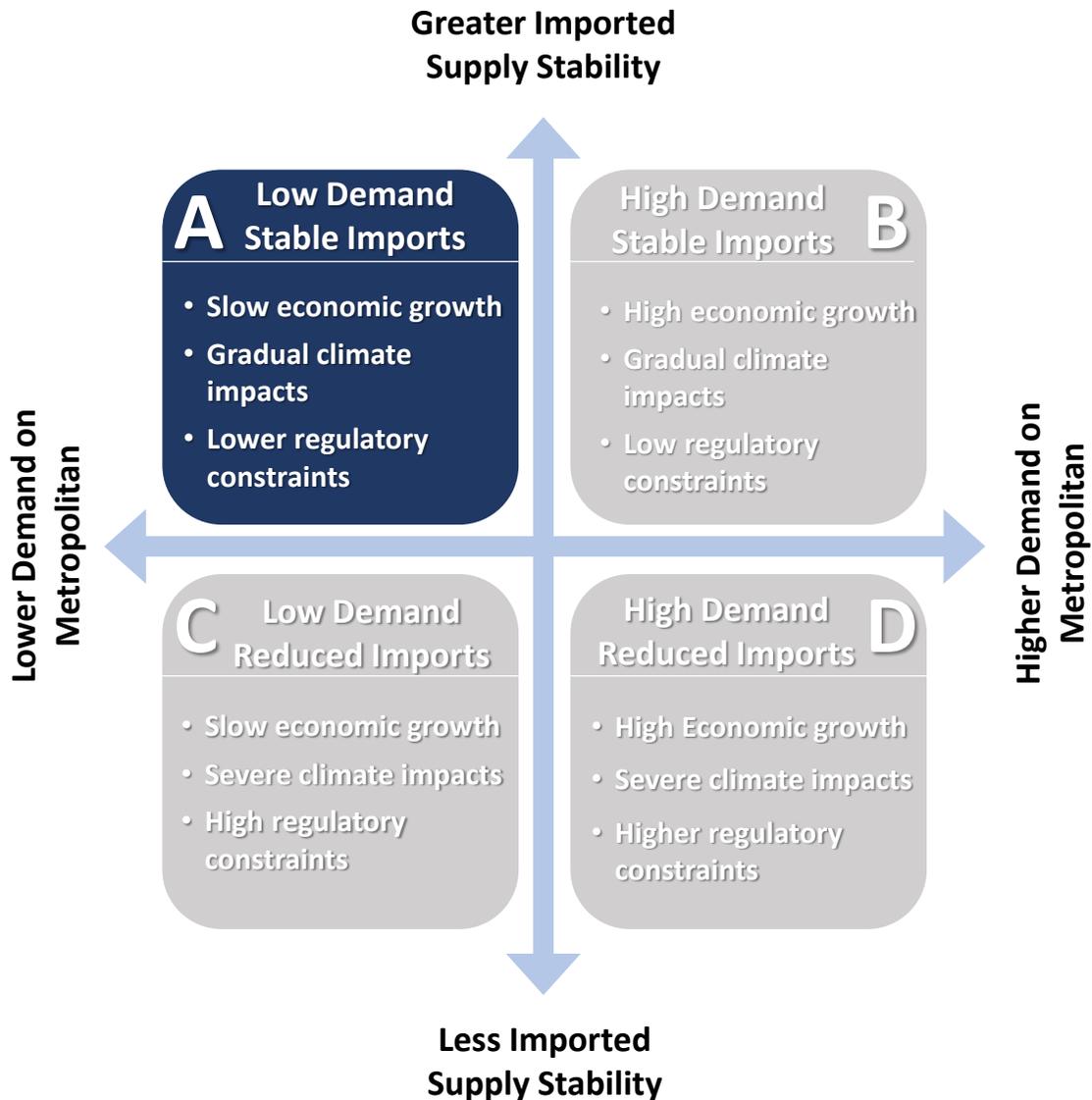


	A	B	C	D
SWP Imports				
CRA Imports				
Retail Demand				
Local Supply				
Demand on MWD				
Gap Analysis				

October 14th MA Tech Team - Undergoing Revision
 November 13th MAMM – Undergoing Revision
 November 24th MA Tech Team – To be Refined

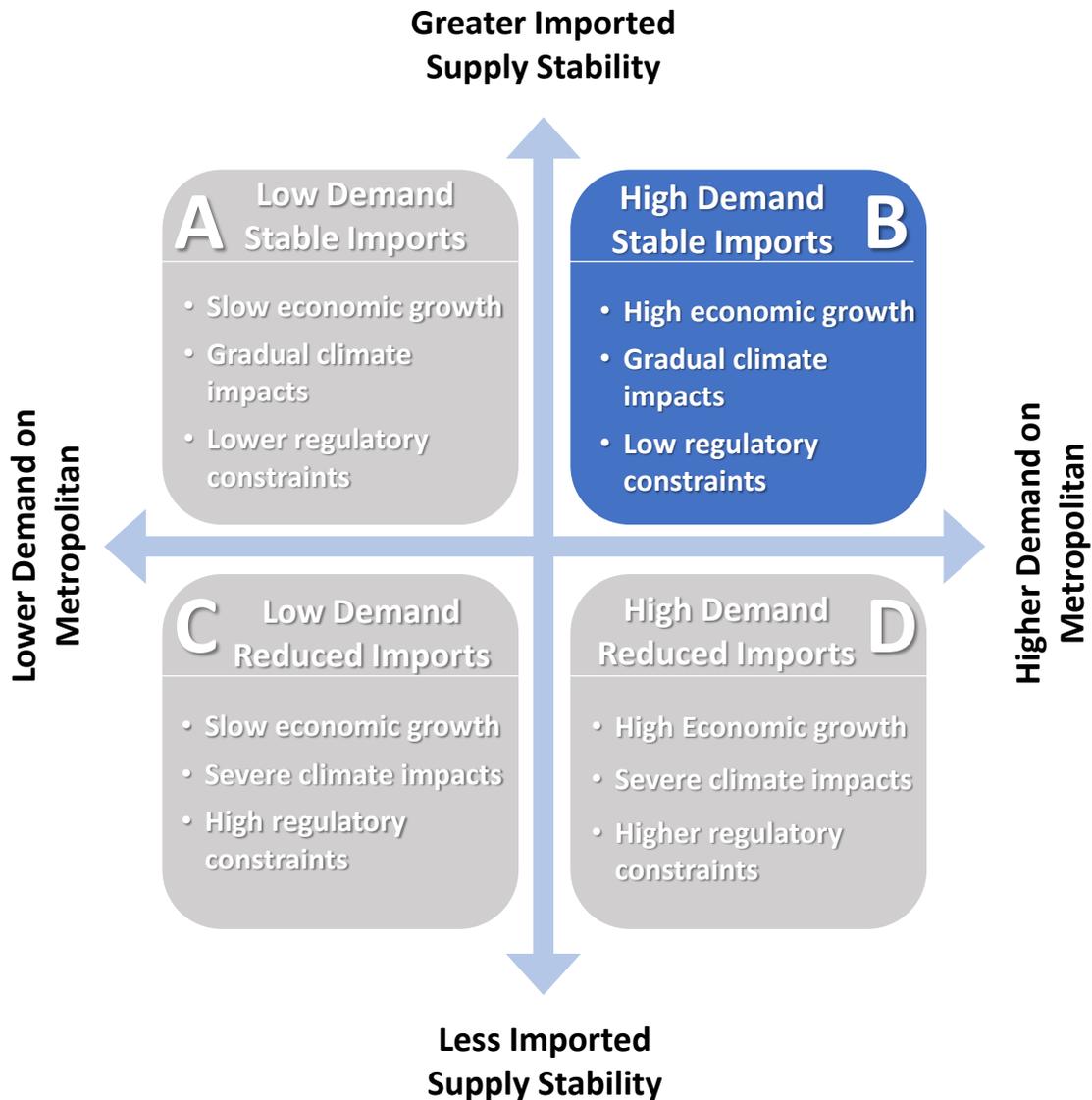
Preliminary Assumptions

2020 IRP – PRELIMINARY ASSUMPTIONS



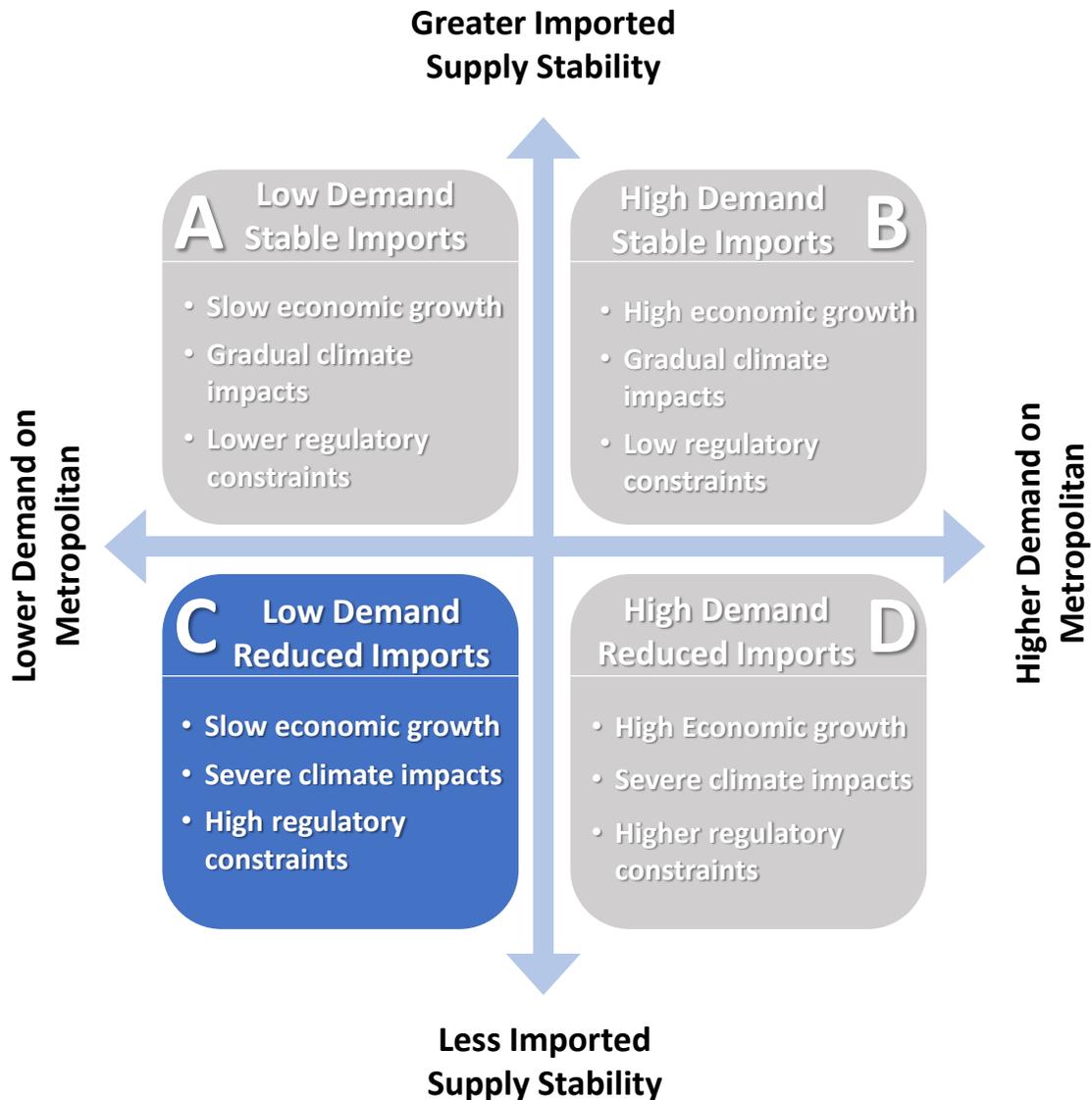
	A
SWP Imports	<ul style="list-style-type: none"> • 2019 Delivery Capability Report • No Conveyance Project
CRA Imports	<ul style="list-style-type: none"> • August 2020 CRSS Modeling Run <ul style="list-style-type: none"> ○ Full Hydrology ○ Upper Basin Drought Operations plan throughout planning horizon
Retail Demand	<ul style="list-style-type: none"> • ~8% ↓ in SCAG & SANDAG population forecasts = 2.91 AFY by 2045 M&I demands • Water use ethic continues • Ag demands reflect recent averages and 2015 UWMP
Local Supply	<ul style="list-style-type: none"> • 2010-12 average for groundwater and surface water production • Existing/under construction local projects • LAA forecast provided by LADWP in August

2020 IRP – PRELIMINARY ASSUMPTIONS



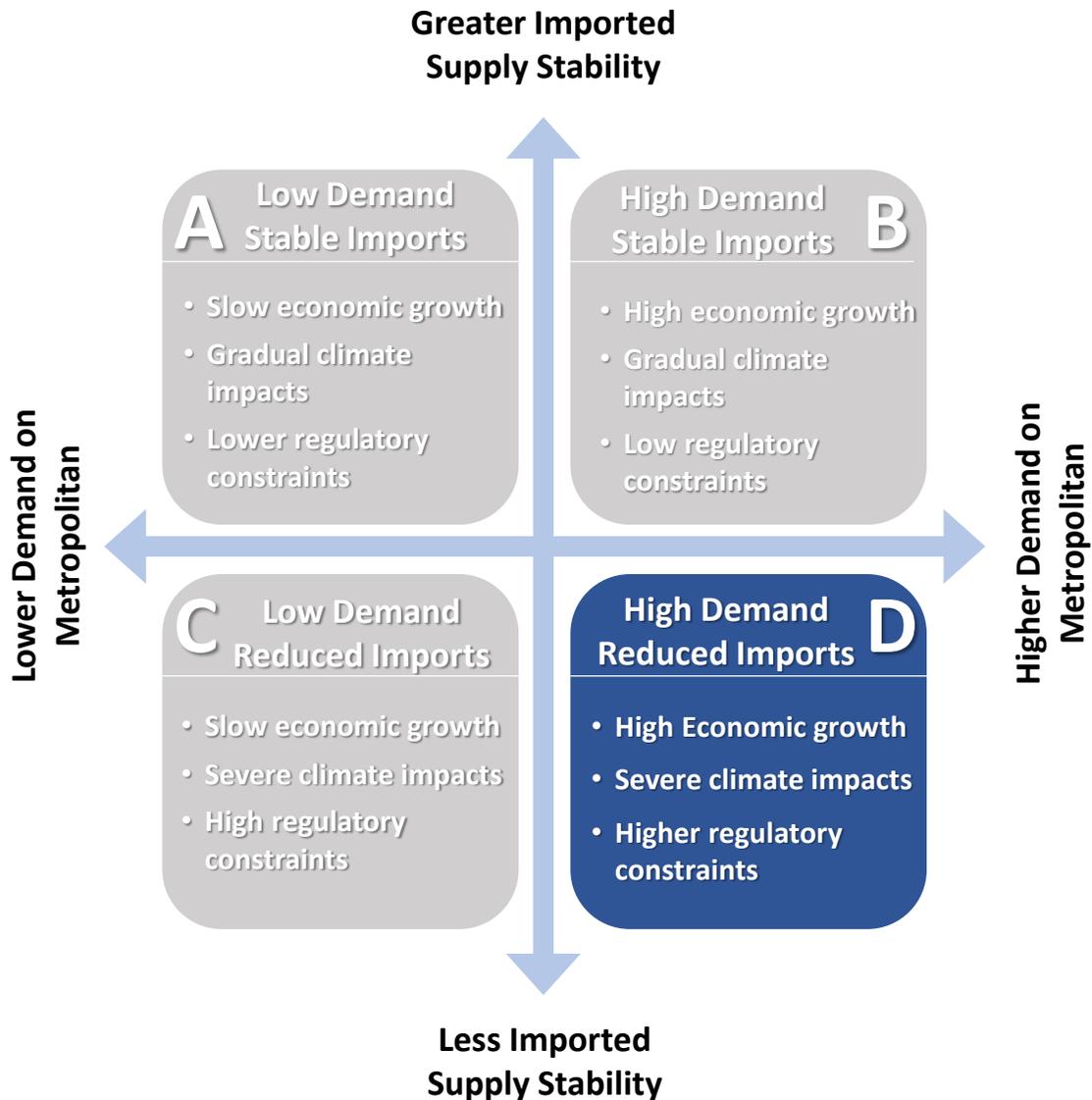
	B
SWP Imports	<ul style="list-style-type: none"> • 2019 Delivery Capability Report • No Conveyance Project
CRA Imports	<ul style="list-style-type: none"> • August 2020 CRSS Modeling Run <ul style="list-style-type: none"> ○ Full Hydrology ○ Upper Basin Drought Operations plan throughout planning horizon
Retail Demand	<ul style="list-style-type: none"> • ~9% ↑ in SCAG & SANDAG population forecasts = 4.24 MAF by 2045 M&I demands • 40% rebound in water use • Ag demands reflect recent averages and 2015 UWMP
Local Supply	<ul style="list-style-type: none"> • 2010-12 average for groundwater and surface water production • Full inventory of local projects, reduced ultimate yield by 20% for future projects • LAA forecast provided by LADWP in August

2020 IRP – PRELIMINARY ASSUMPTIONS



	C
SWP Imports	<ul style="list-style-type: none"> • 2019 Delivery Capability Report <ul style="list-style-type: none"> ○ No Conveyance Project ○ Additional regulatory and climate change impacts
CRA Imports	<ul style="list-style-type: none"> • August 2020 CRSS Modeling Run <ul style="list-style-type: none"> ○ Stress Test Hydrology ○ Upper Basin Drought Operations plan in place throughout planning horizon
Retail Demand	<ul style="list-style-type: none"> • ~8% ↓ in SCAG & SANDAG population forecasts = 2.91 AFY by 2045 M&I demands • Water use ethic continues • Ag demands reflect recent averages and 2015 UWMP
Local Supply	<ul style="list-style-type: none"> • 2014-16 average for groundwater and surface water production • Existing/under construction local projects • Adjusted LAA forecast

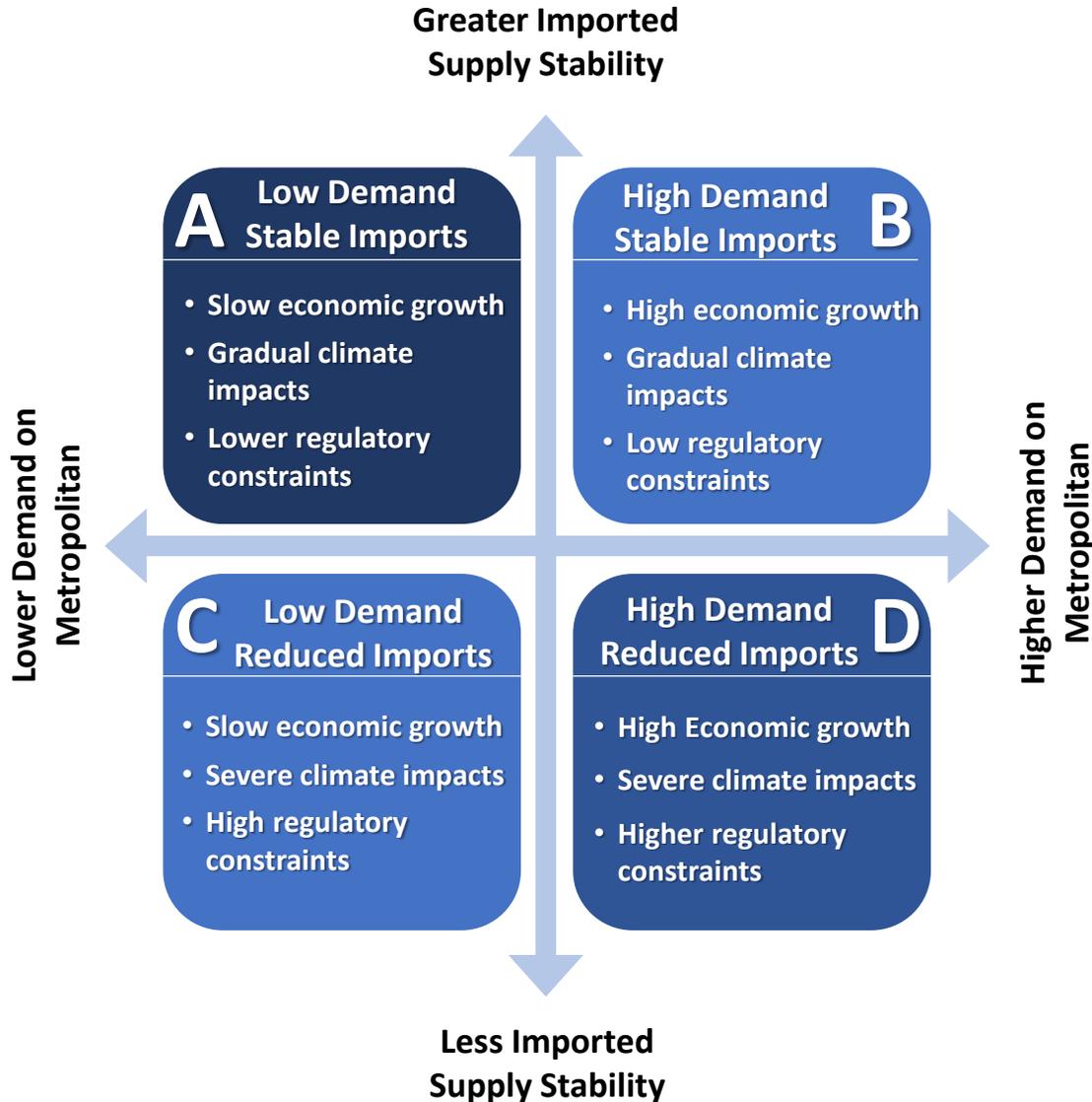
2020 IRP – PRELIMINARY ASSUMPTIONS



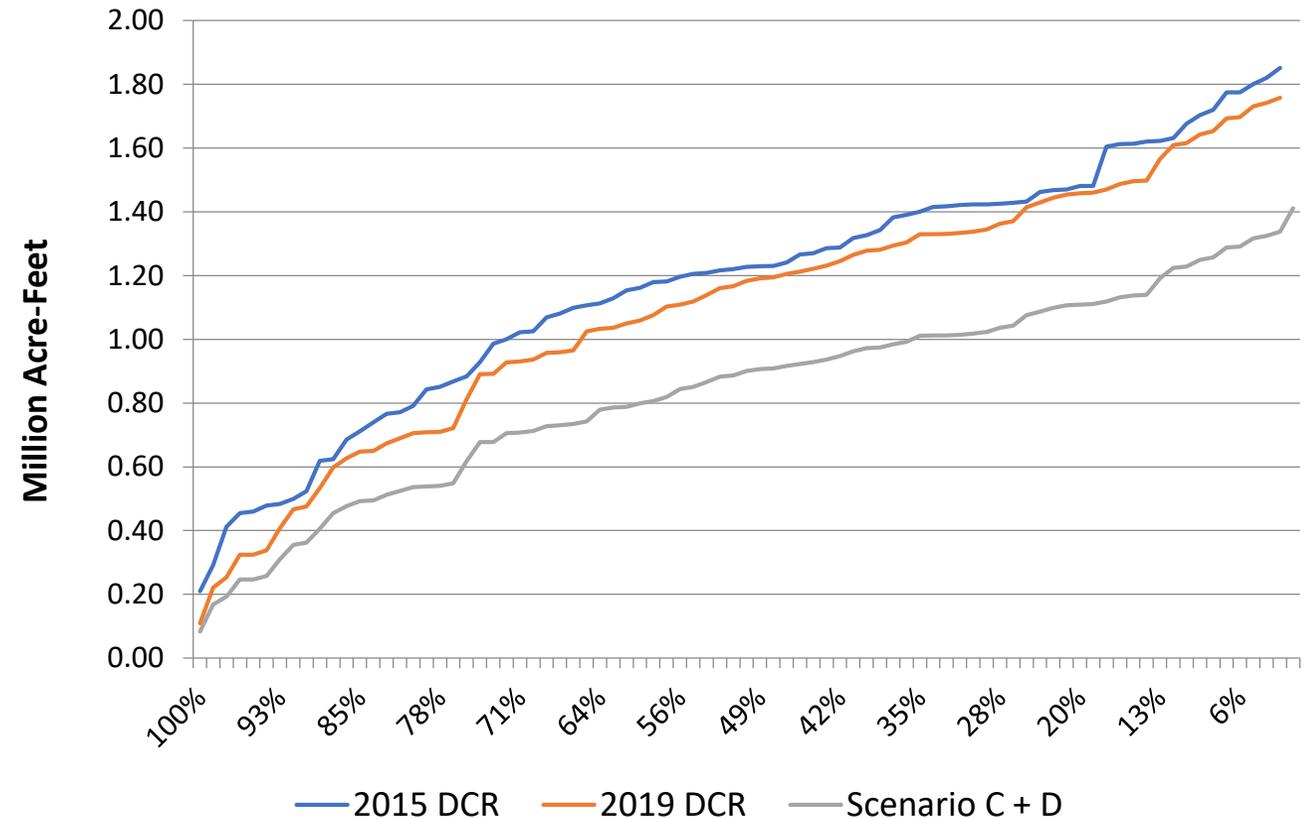
	D
SWP Imports	<ul style="list-style-type: none"> • 2019 Delivery Capability Report <ul style="list-style-type: none"> ○ No Conveyance Project ○ Additional climate change impacts
CRA Imports	<ul style="list-style-type: none"> • August 2020 CRSS Modeling Run <ul style="list-style-type: none"> ○ Stress Test Hydrology ○ Upper Basin Drought Operations plan in place throughout planning horizon
Retail Demand	<ul style="list-style-type: none"> • ~9% ↑ in SCAG & SANDAG population forecasts = 4.24 MAF by 2045 M&I demands • 40% rebound in water use • Ag demands reflect recent averages and 2015 UWMP
Local Supply	<ul style="list-style-type: none"> • Full inventory of local projects, reduced ultimate yield by 20% for future projects and 20% for severe climate and regulatory impacts • Adjusted LAA forecast

Preliminary Analysis

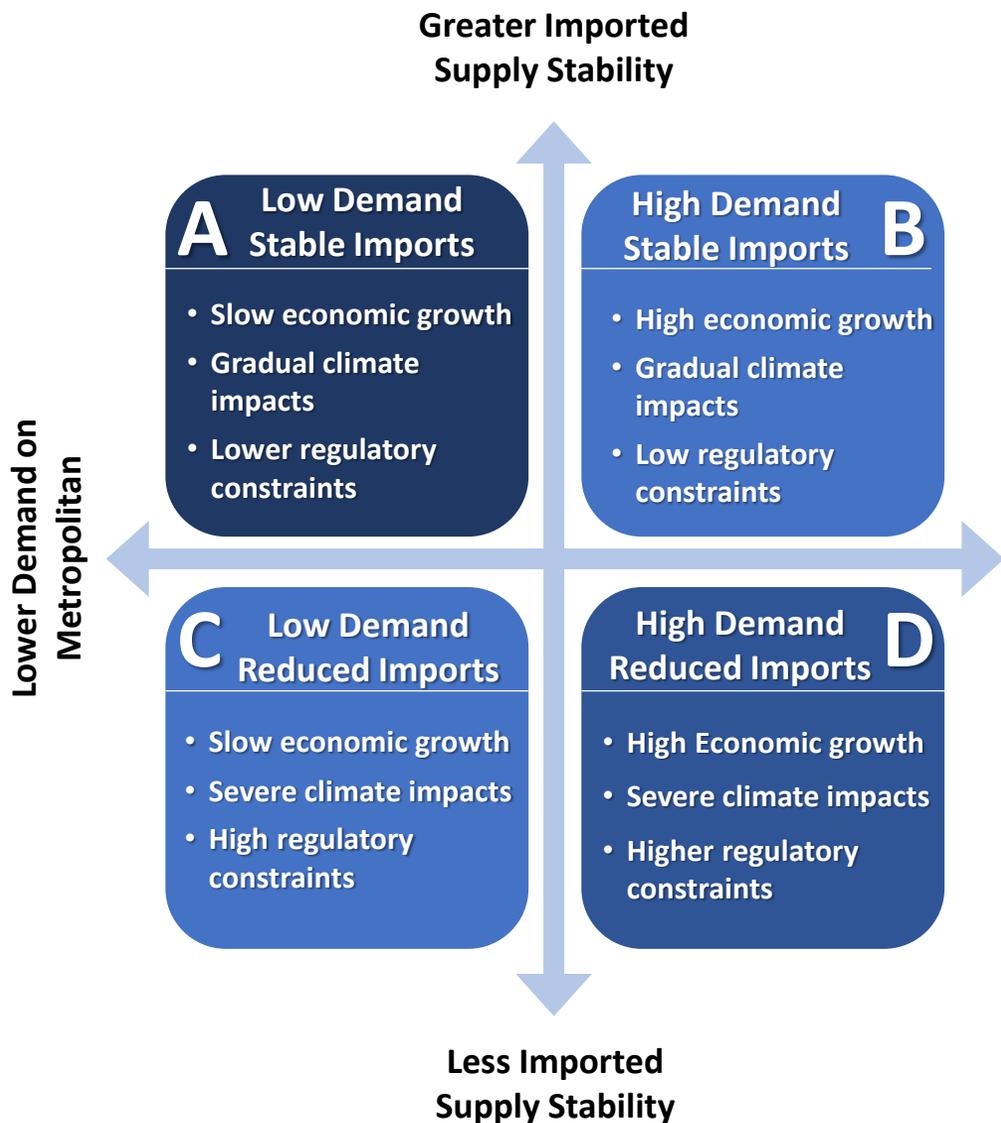
2020 IRP – PRELIMINARY SWP IMPORTED SUPPLY



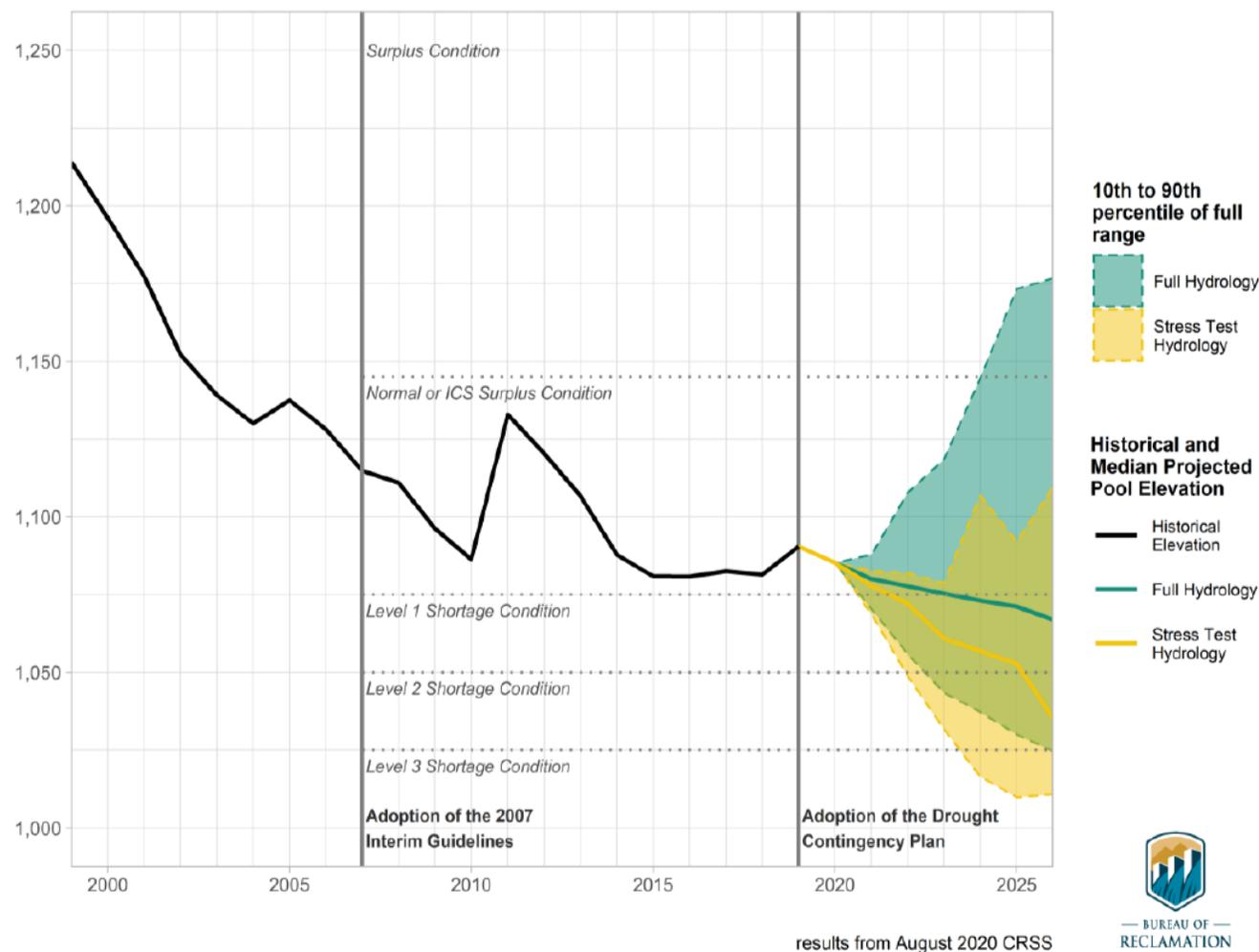
Delivery Capability Report



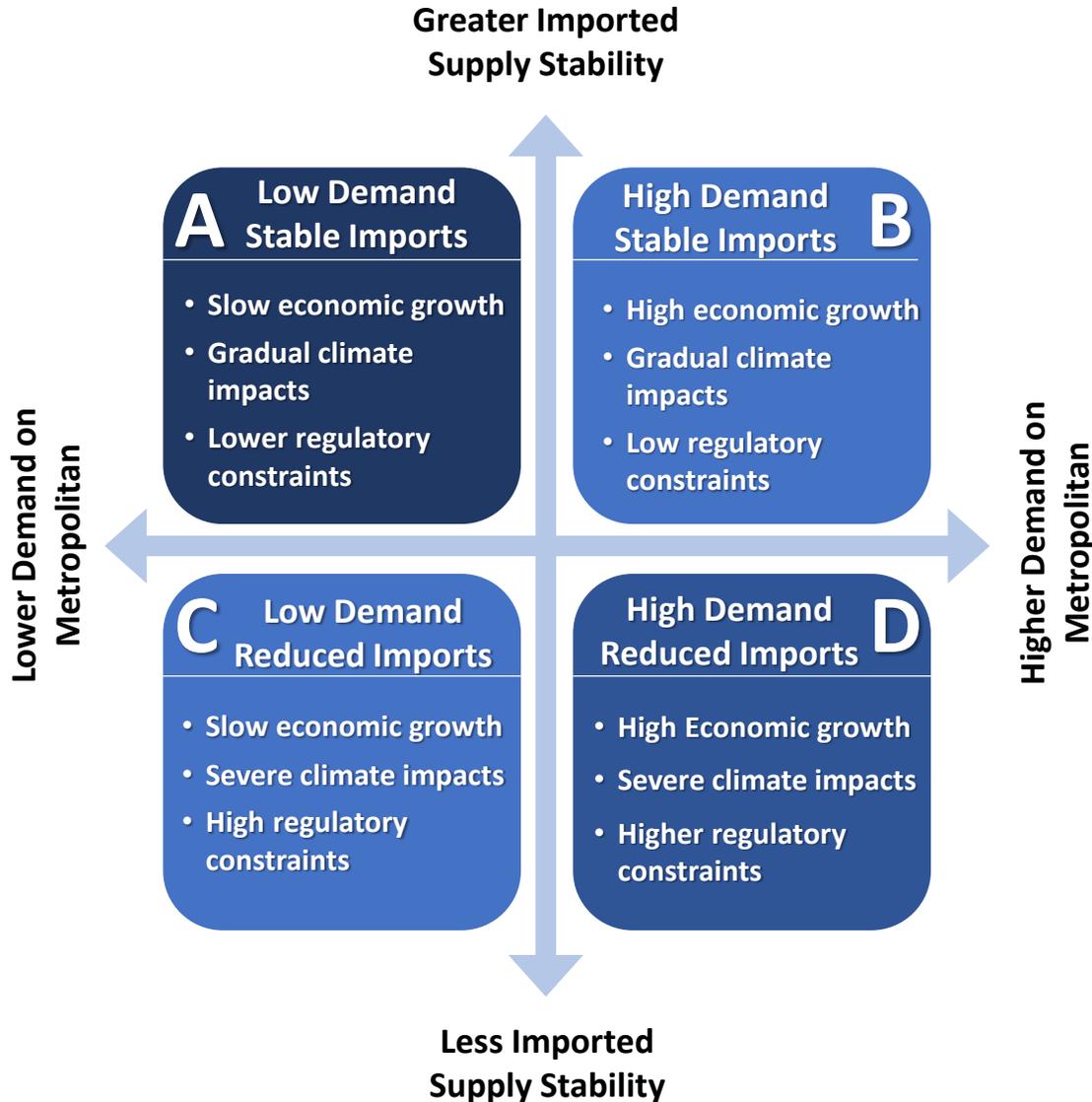
2020 IRP – PRELIMINARY CRA IMPORTED SUPPLY



Mead End-of-December Elevation



2020 IRP – PRELIMINARY CRA IMPORTED SUPPLY

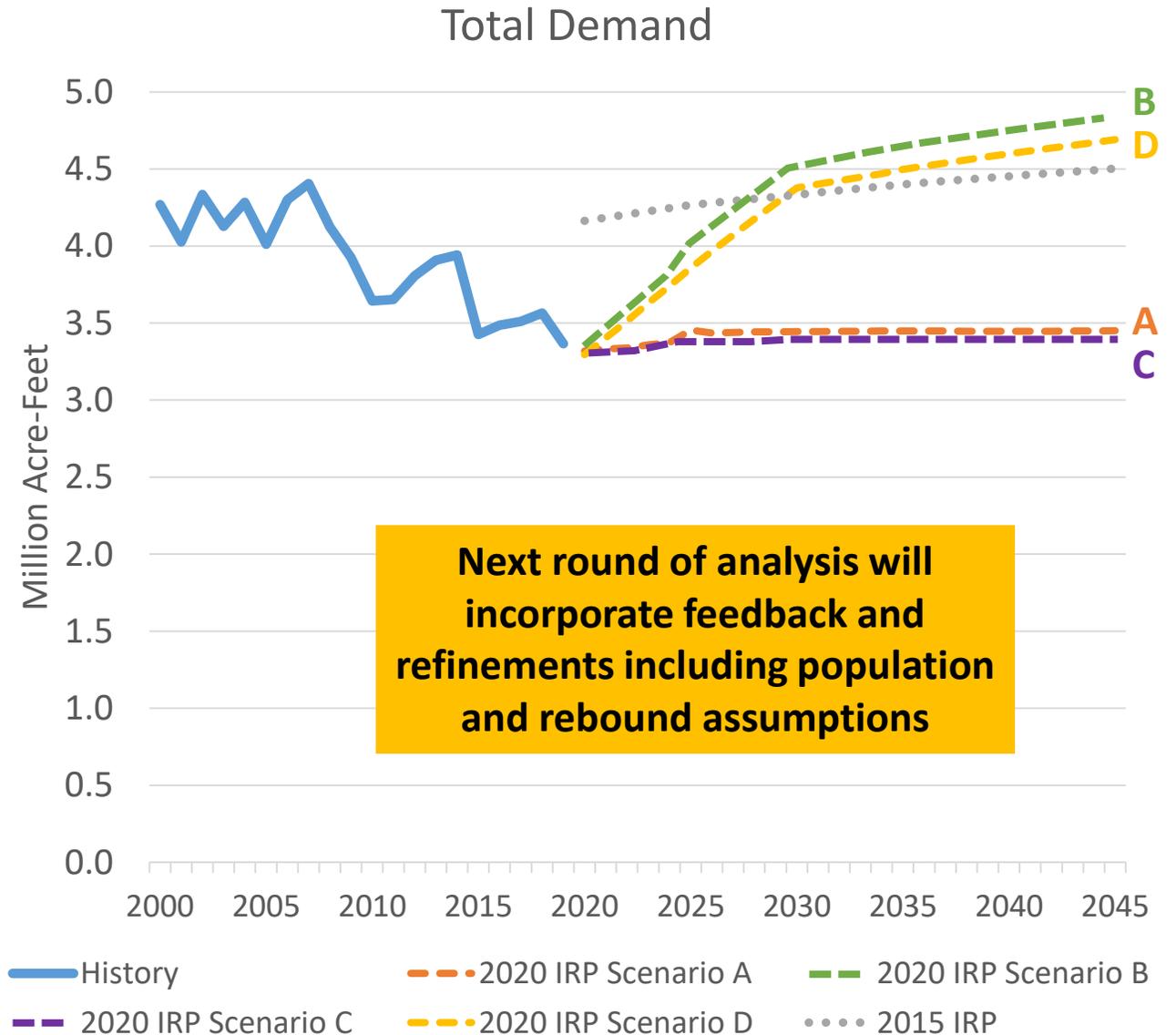
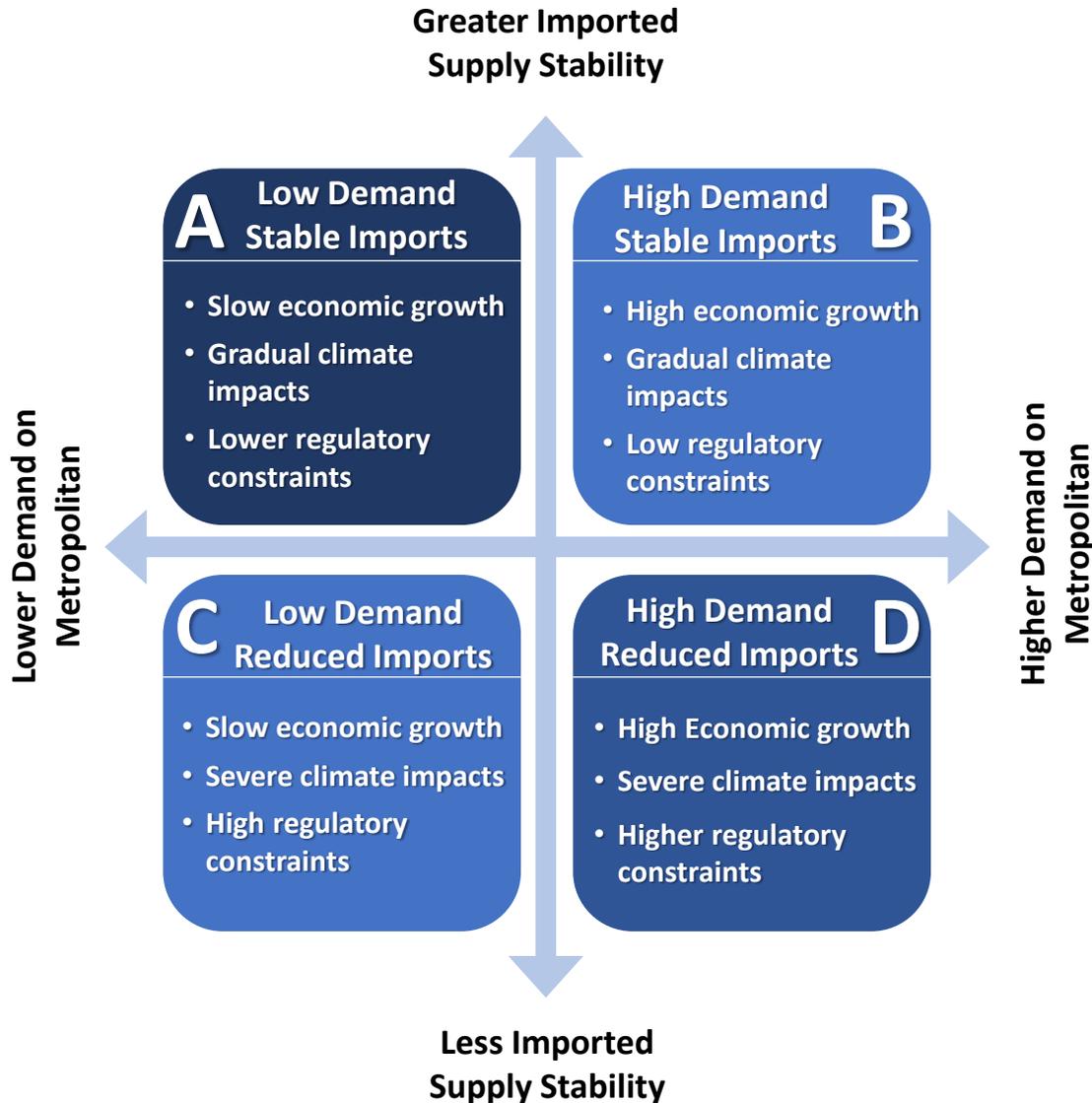


Shortage Condition ¹	2021	2022	2023	2024	2025
August 2020 CRSS (Full Hydrology)	0%	23%	44%	49%	53%

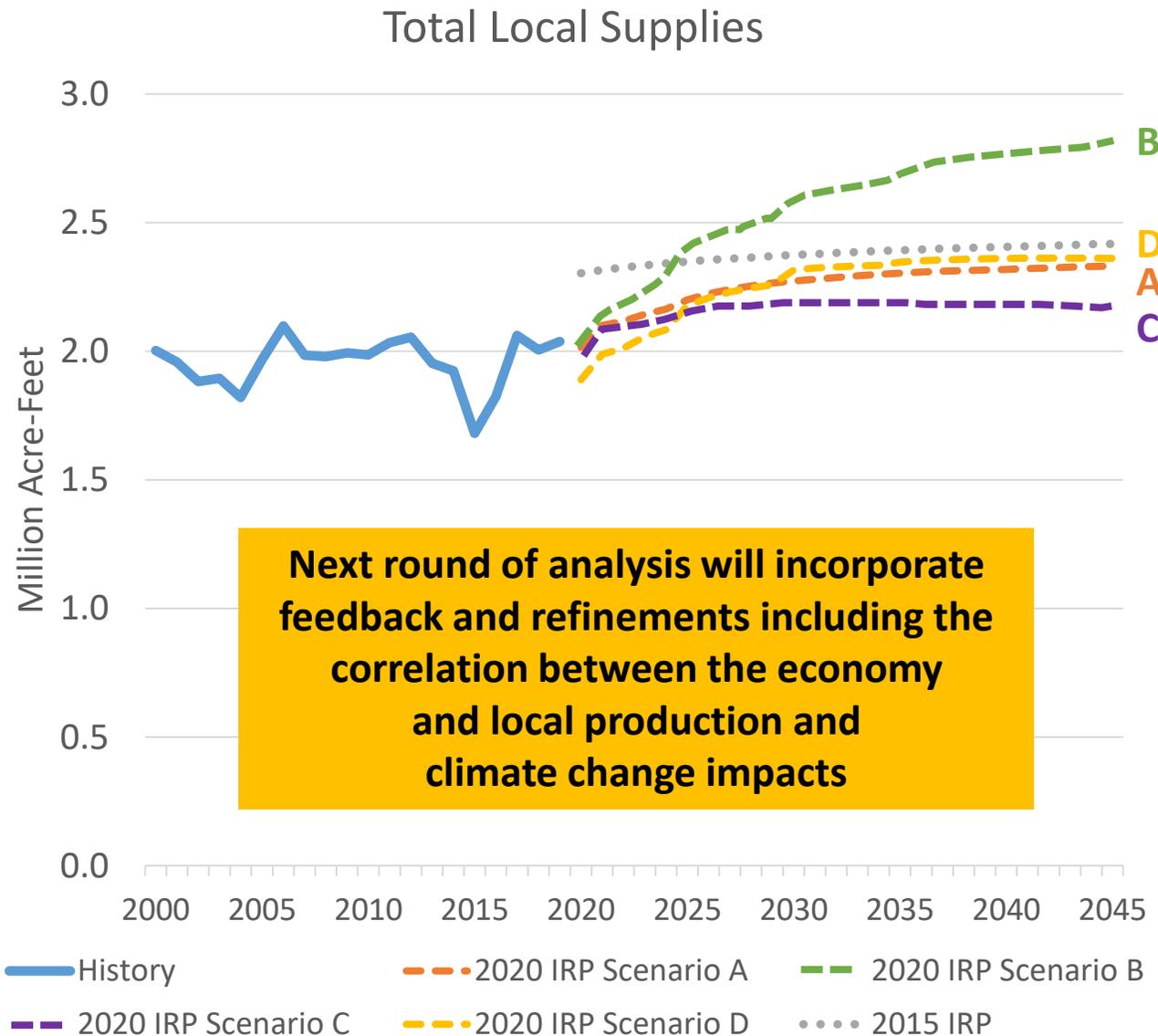
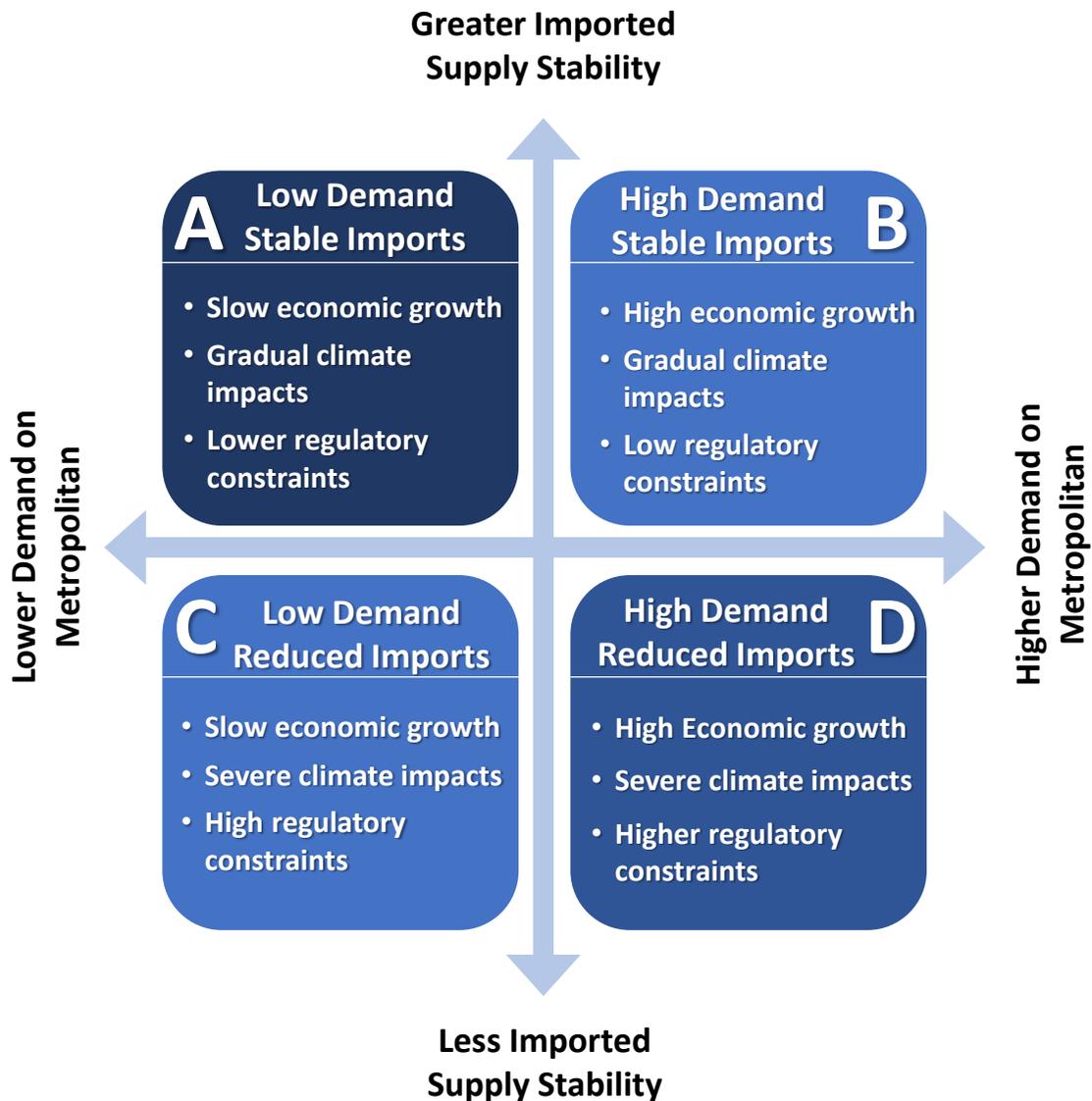
Shortage Condition ¹	2021	2022	2023	2024	2025
August 2020 CRSS (Stress Test Hydrology)	0%	32%	55%	65%	77%

¹ Shortage Condition: Mead ≤ 1,075 ft.

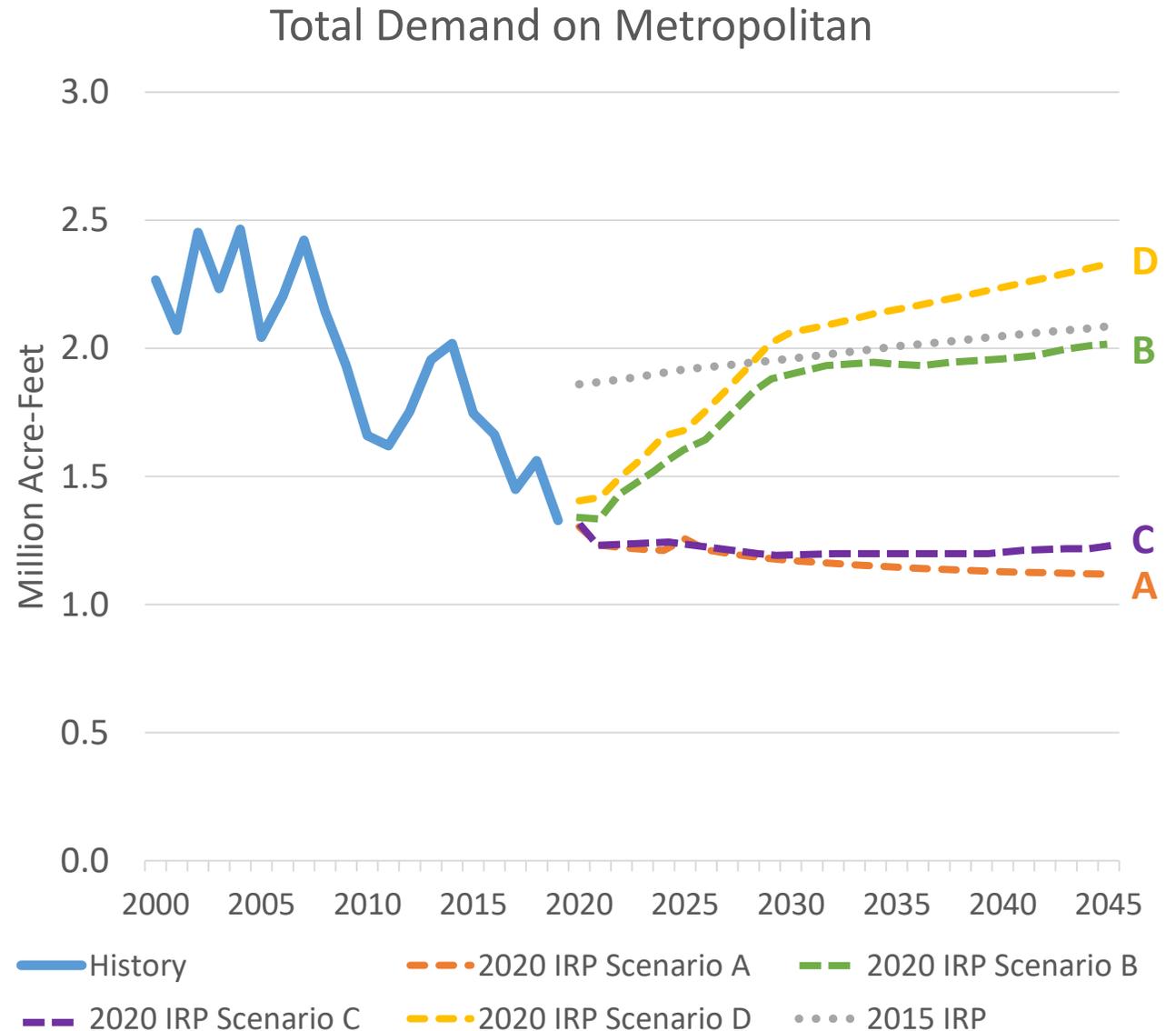
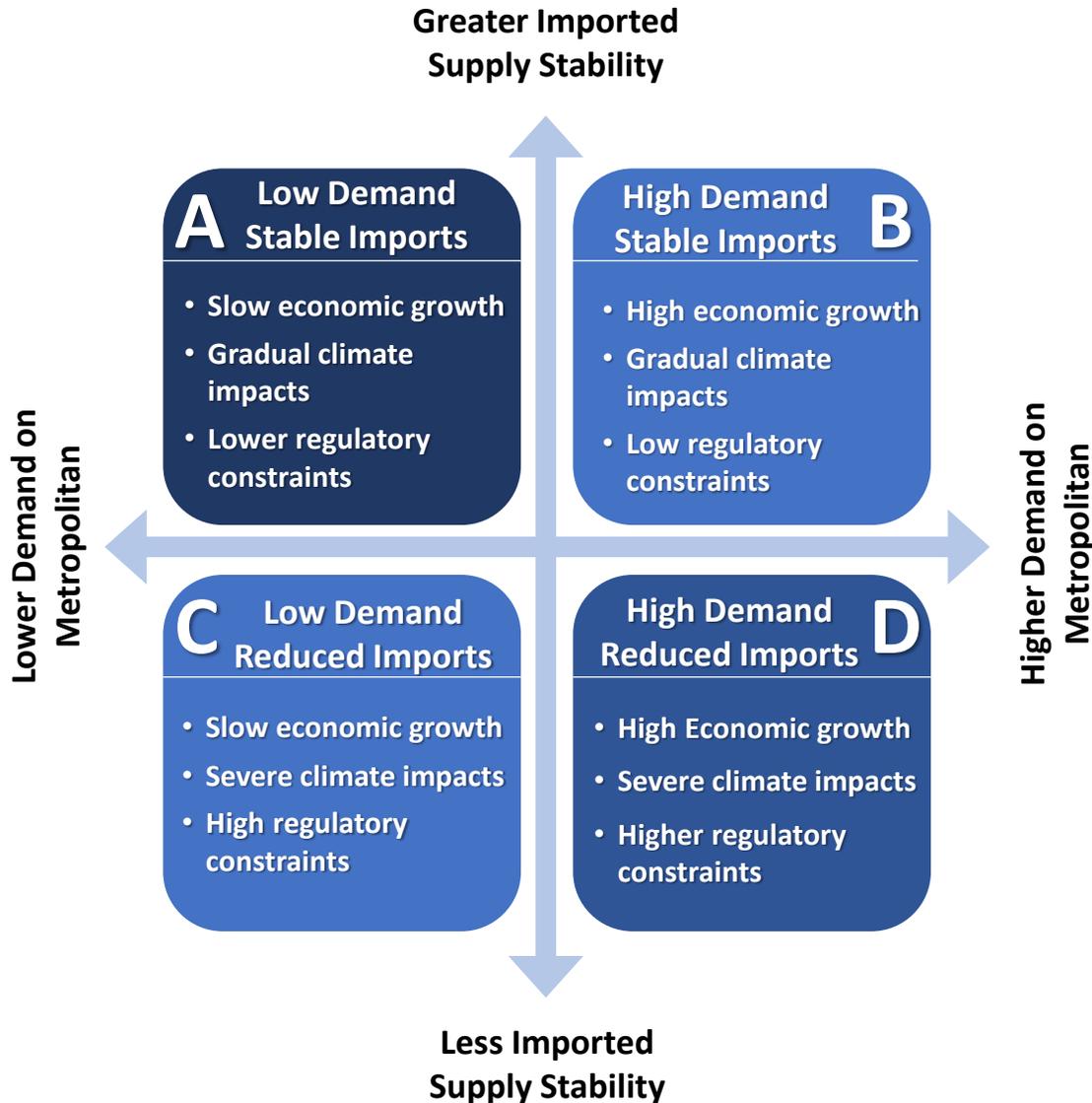
2020 IRP – PRELIMINARY TOTAL DEMANDS



2020 IRP - PRELIMINARY TOTAL LOCAL SUPPLIES



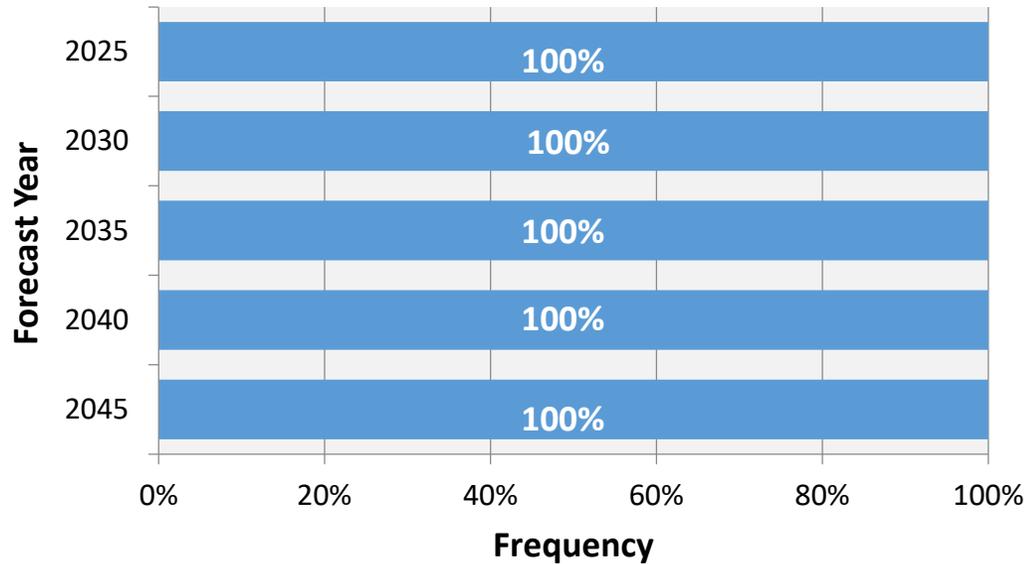
2020 IRP - PRELIMINARY DEMAND ON METROPOLITAN



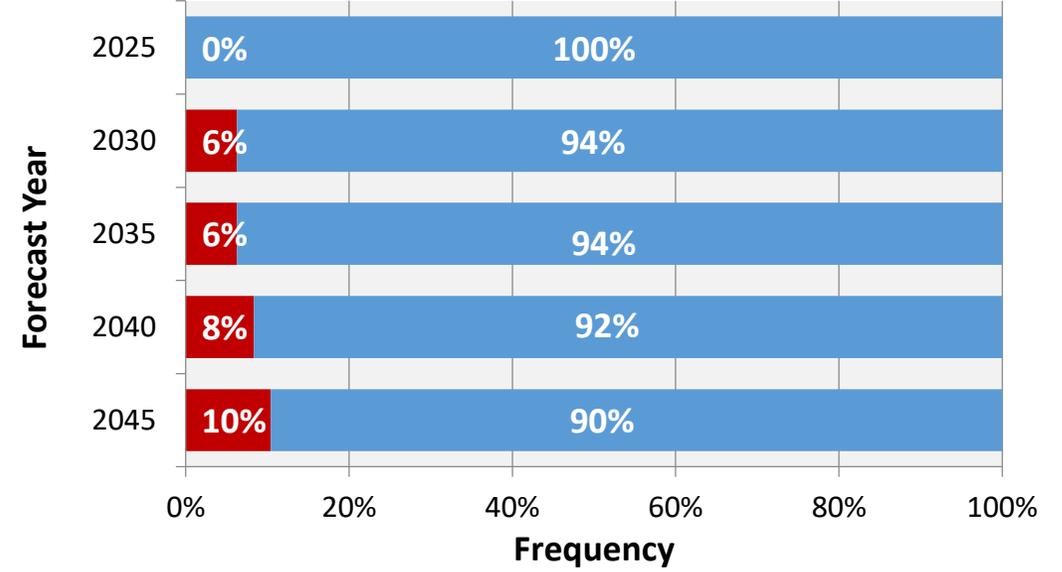
2020 IRP – PRELIMINARY “GAP” ANALYSIS

When to expect a gap and how often it occurs

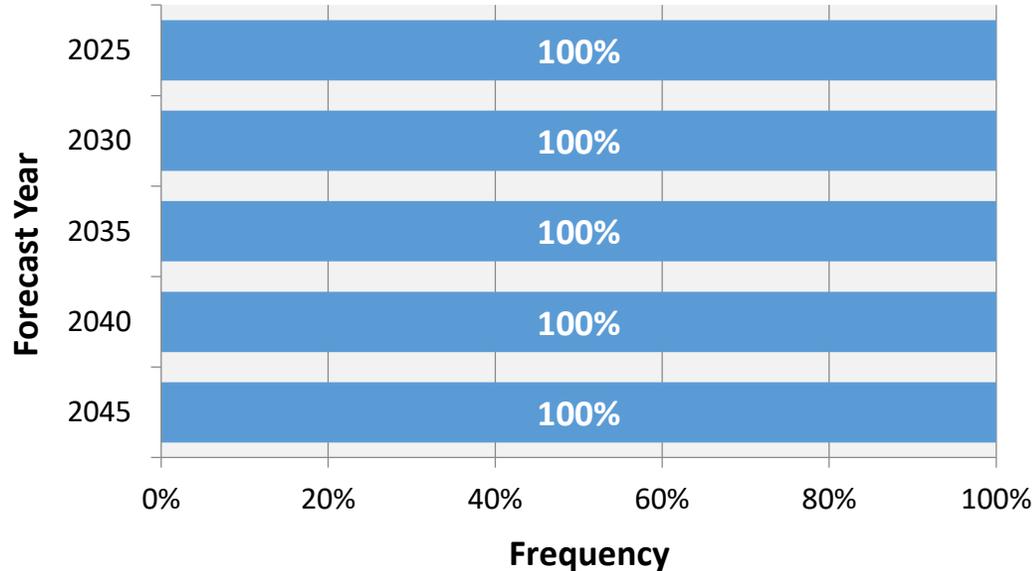
SCENARIO A



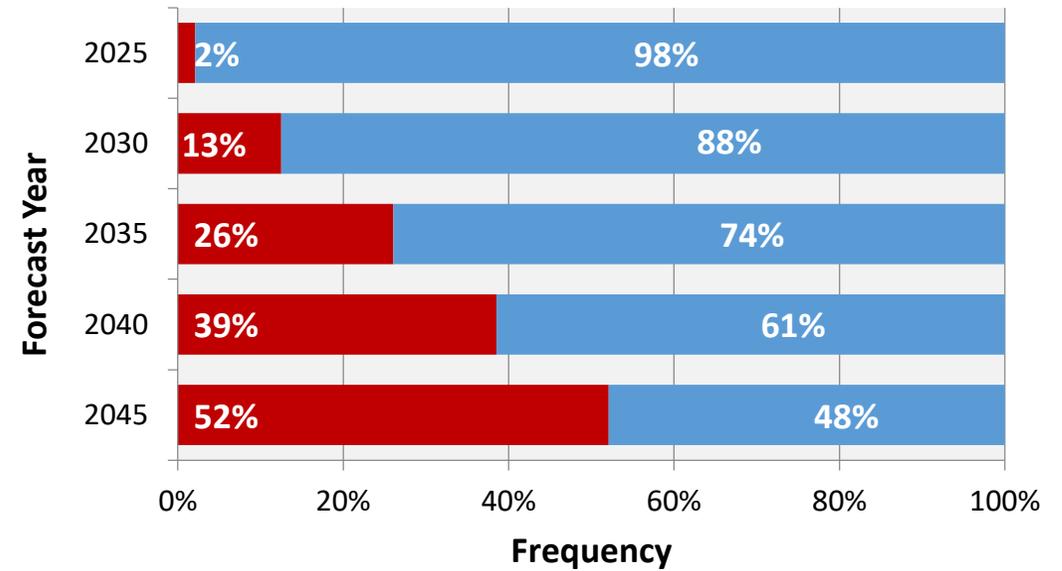
SCENARIO B



SCENARIO C

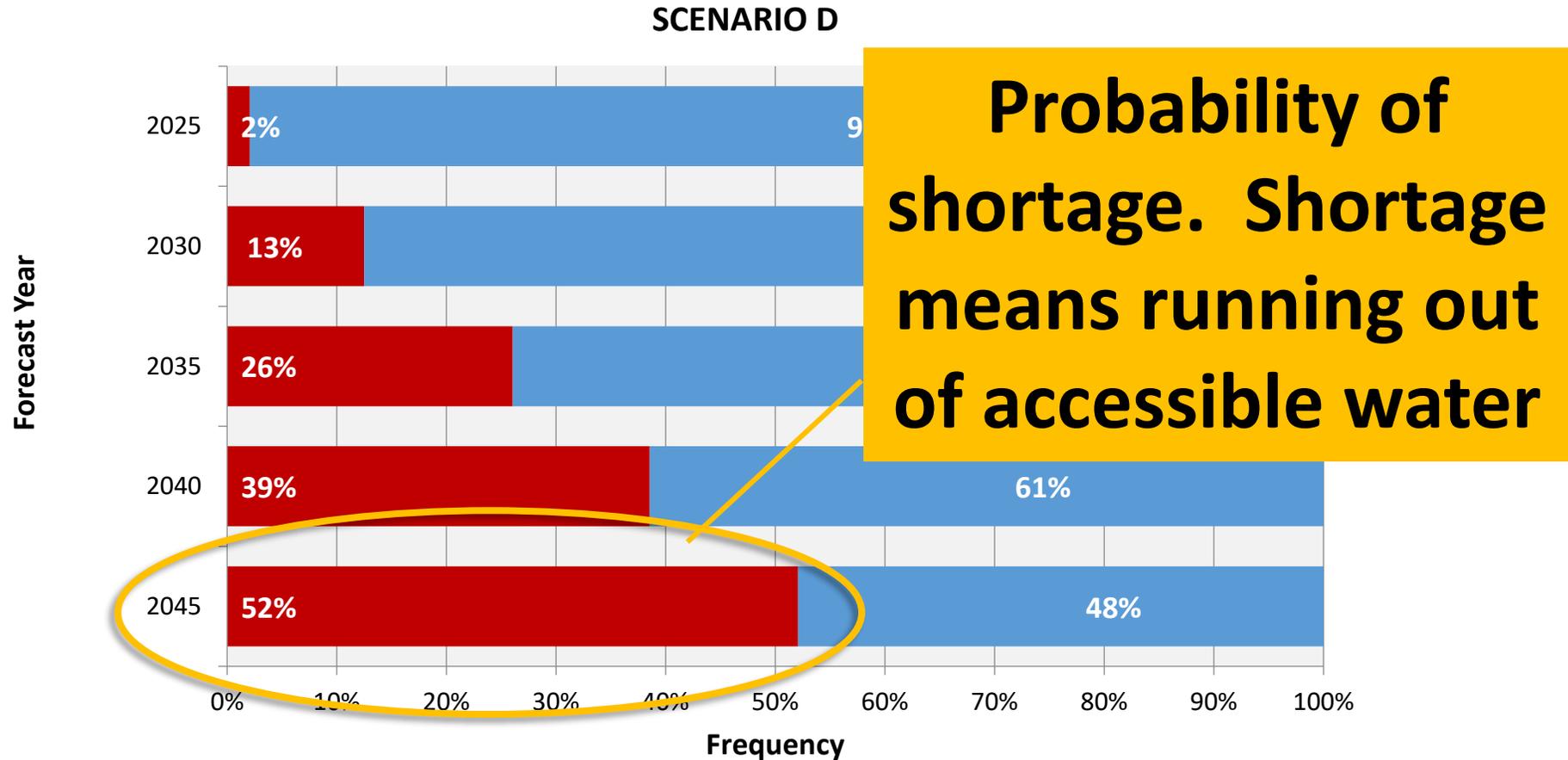


SCENARIO D



2020 IRP – PRELIMINARY “GAP” ANALYSIS

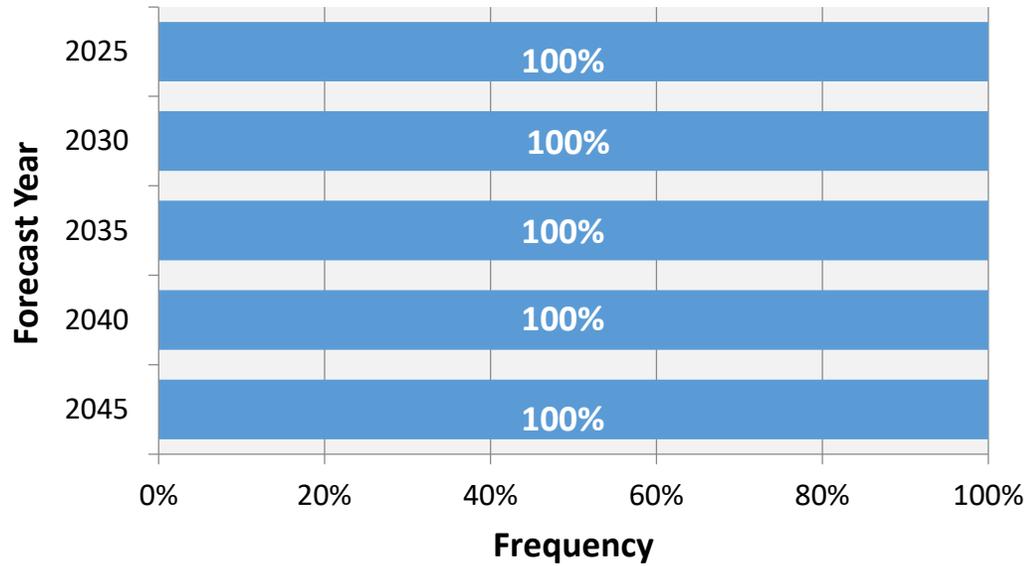
When to expect a gap and how often it occurs



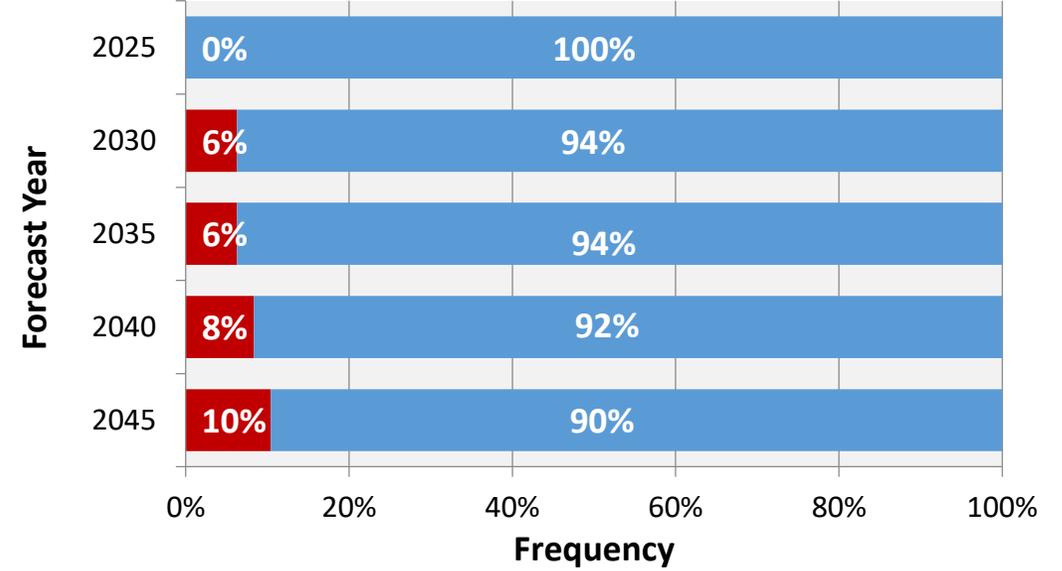
2020 IRP – PRELIMINARY “GAP” ANALYSIS

When to expect a gap and how often it occurs

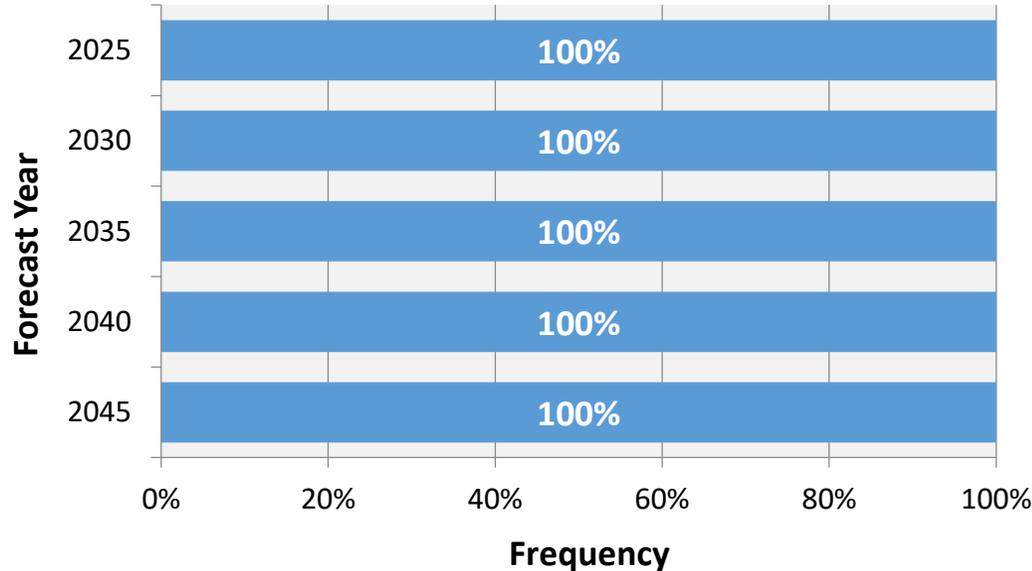
SCENARIO A



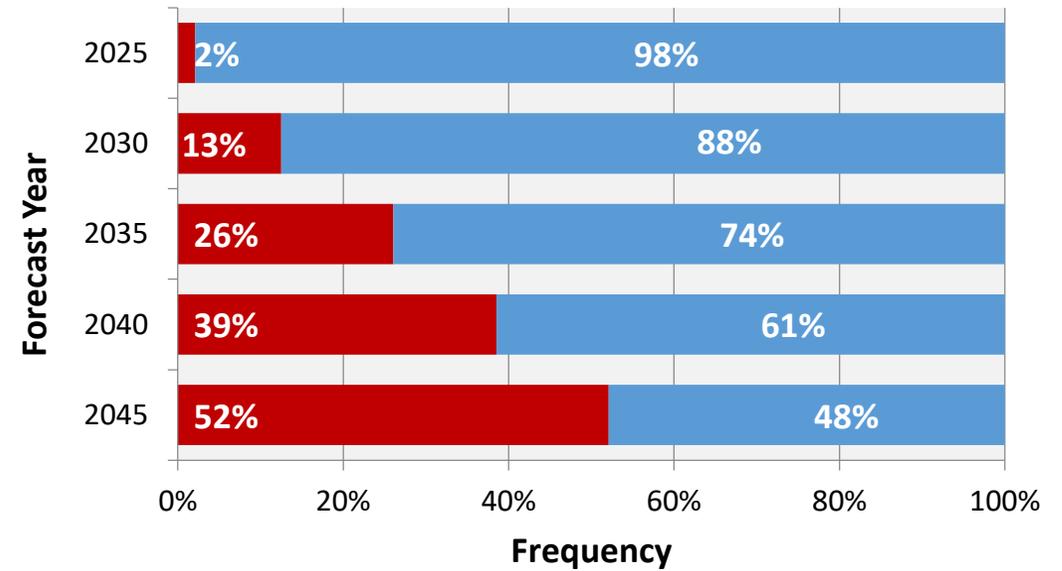
SCENARIO B



SCENARIO C

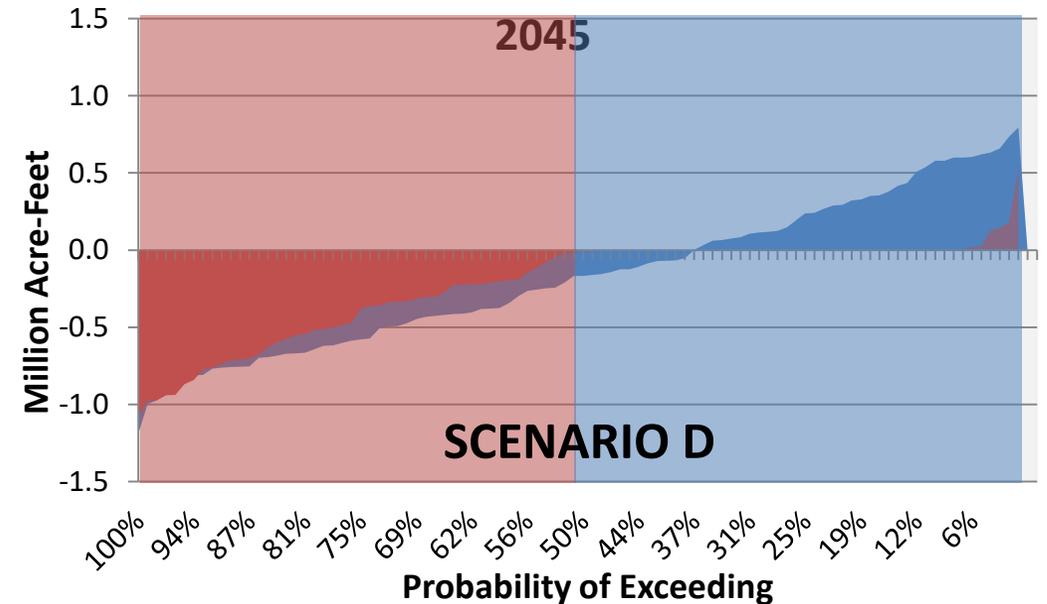
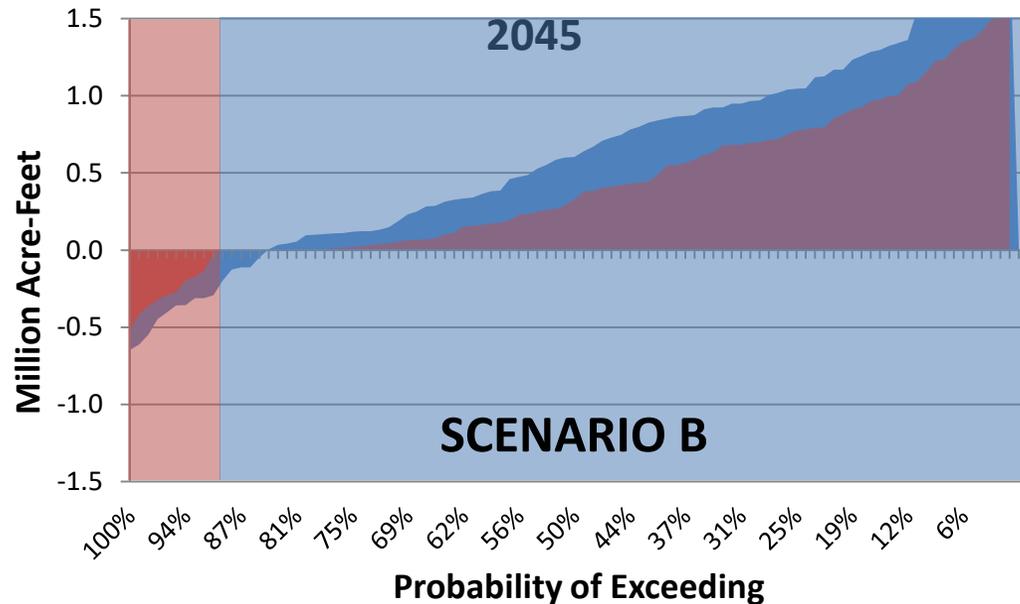
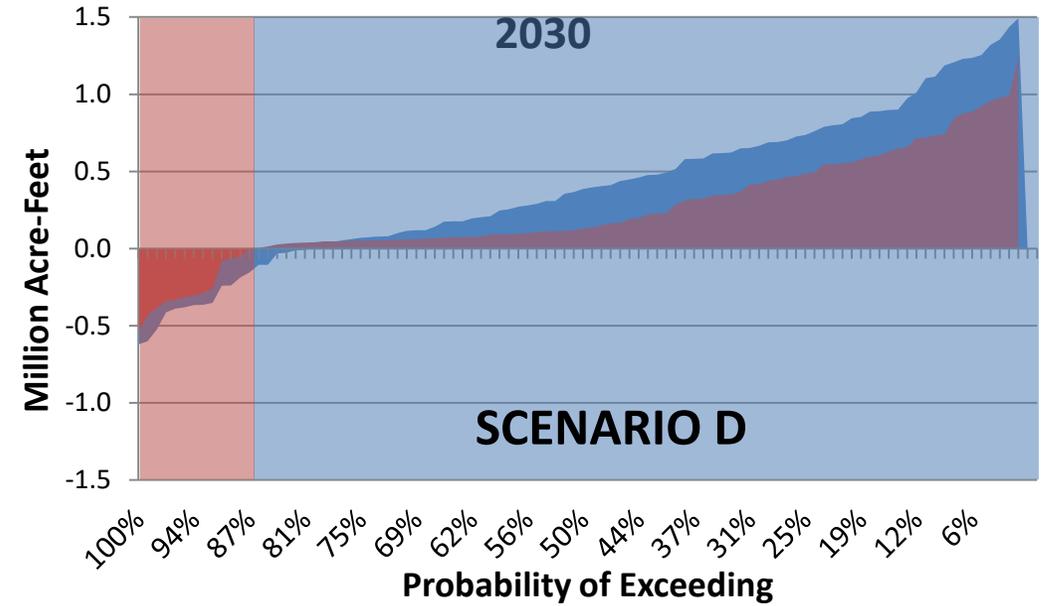
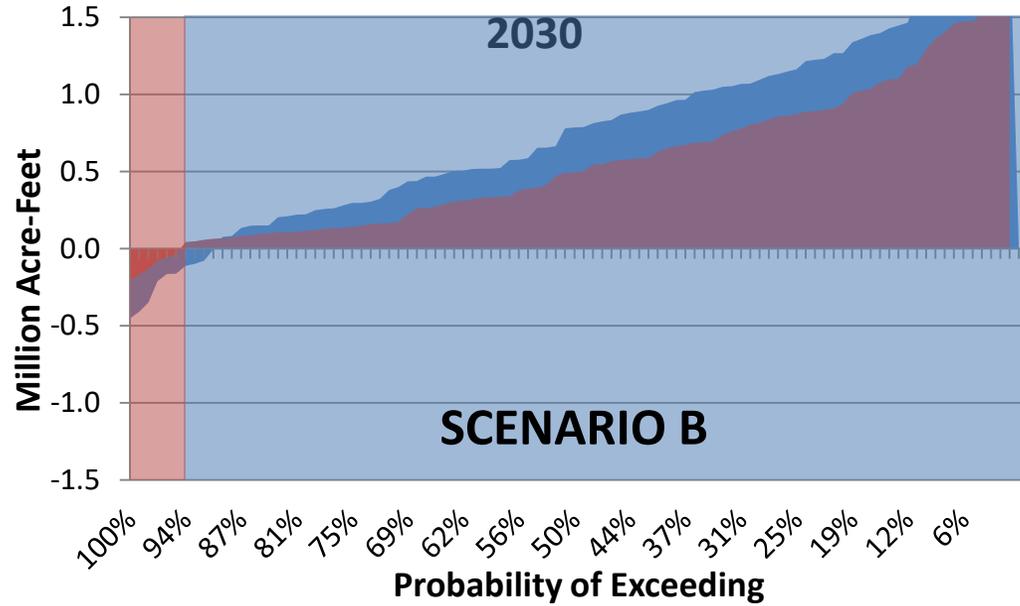


SCENARIO D



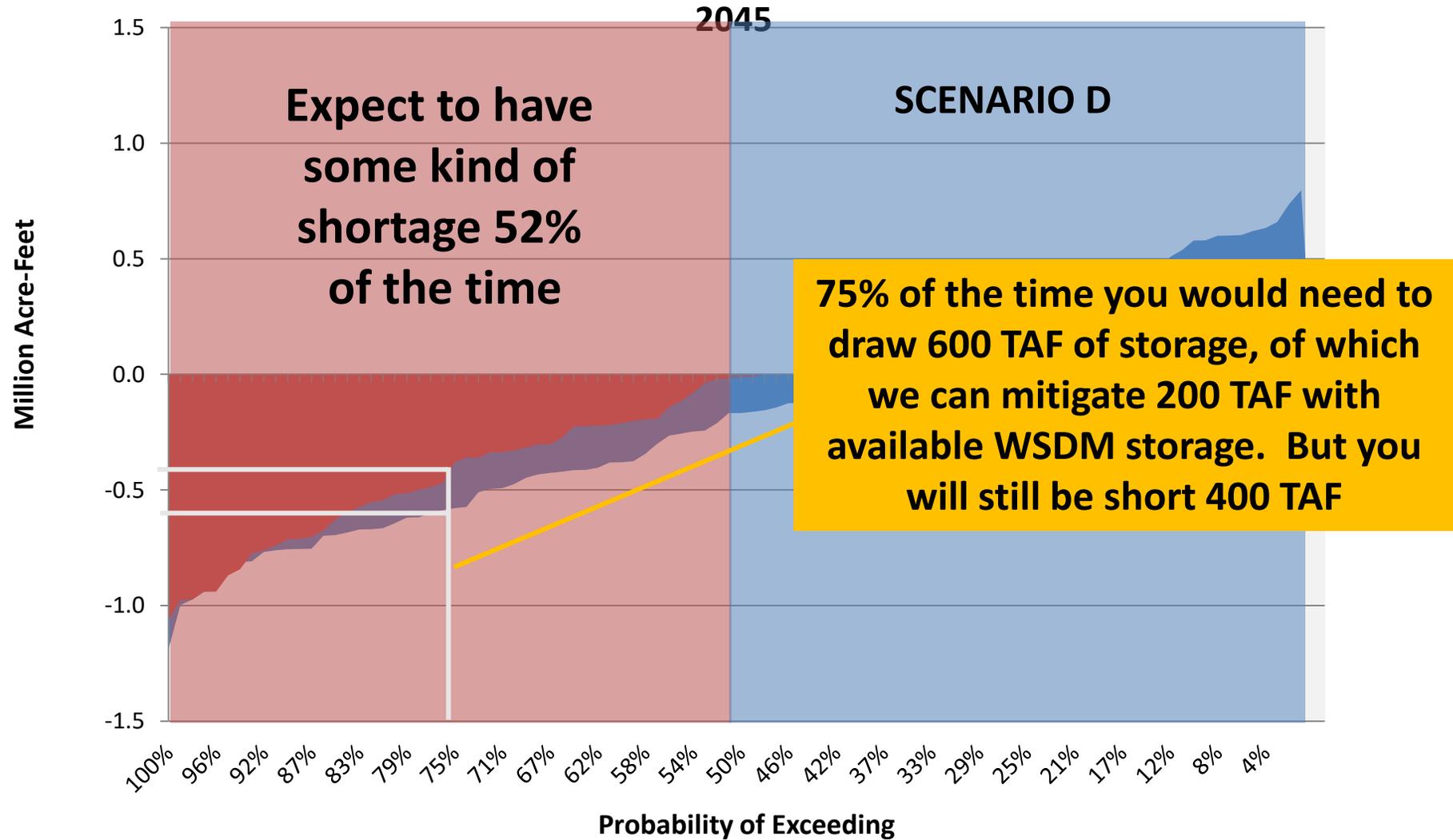
2020 IRP – PRELIMINARY “GAP” ANALYSIS

Magnitude of the gap and how WSDM actions mitigate the gap



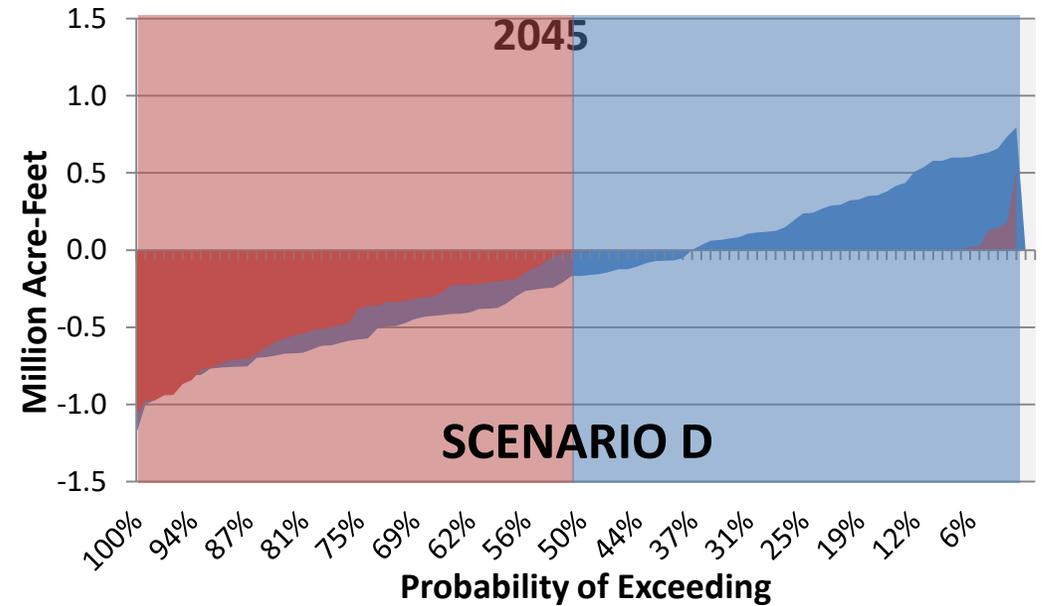
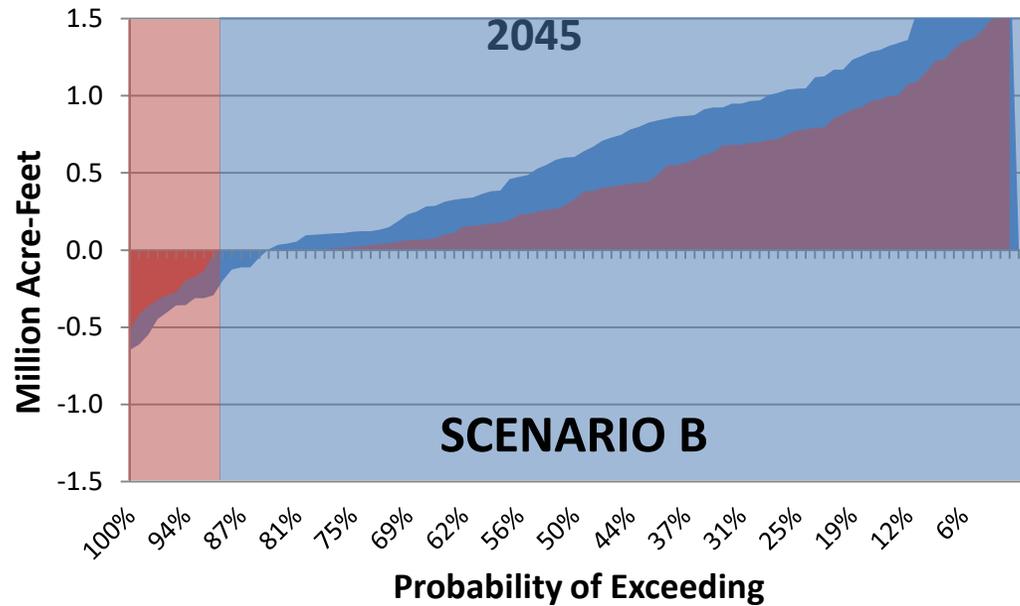
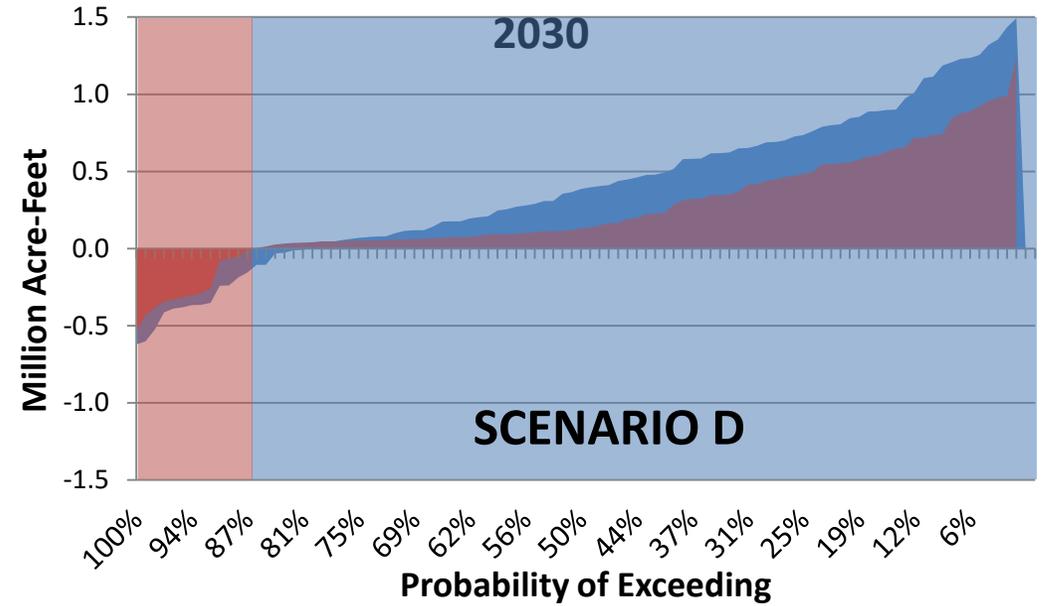
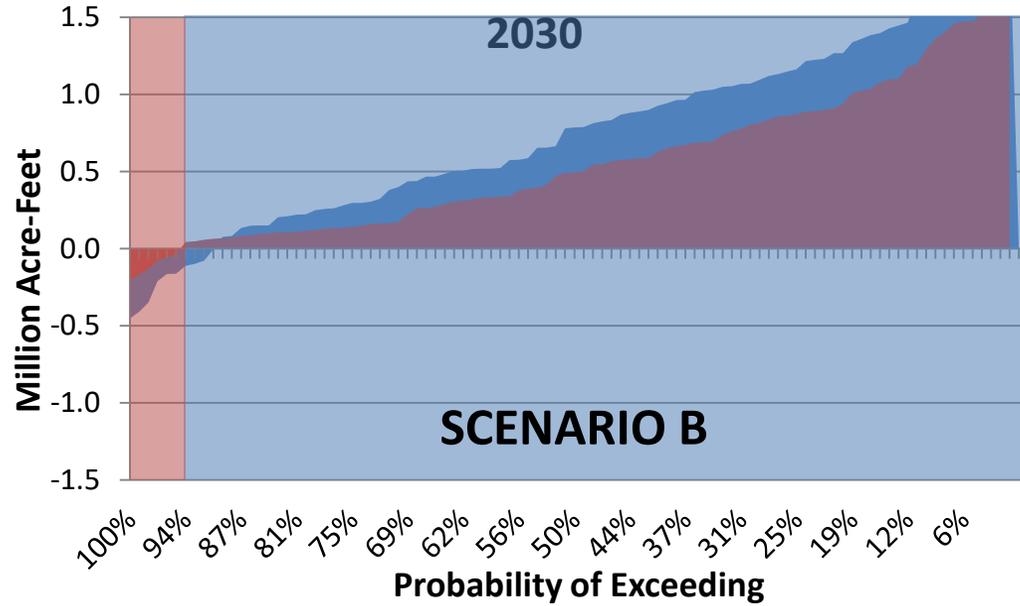
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Magnitude of the gap and how WSDM actions mitigate the gap



2020 IRP – PRELIMINARY “GAP” ANALYSIS

Magnitude of the gap and how WSDM actions mitigate the gap



Discussion

KEY FEEDBACK ON SCENARIOS TO BE INCORPORATED IN NEXT PHASE OF ANALYSIS

- **Local Supply**

- Re-examine correlation between economy and local supply production development
- Re-examine climate change and regulatory impacts on local production

- **Demands**

- Further investigate drivers for continued low demands in order to inform demand rebound assumptions

ADDITIONAL FEEDBACK RECEIVED TO DATE TO BE EXPLORED WITH EXPERTS AND MEMBER AGENCIES

- Affordability
- Price effect
- Housing density
- Population
- COVID impacts
- PFAS impacts
- Ag use
- Behavioral conservation
- Outdoor water use
- Emerging water quality regulations
- Reduced wastewater flows
- System outages

WHAT'S NEXT

- Continue to refine scenario assumptions with Member Agency and experts in preparation of revising the gap analysis
- December 11: Member Agency Managers Meeting
- December 15: IRP Special Committee Meeting

