

## August 2021 Public Works Report

### Front Range and Denver Regional Landfill Updates – Unchanged Since Last Month

Waste Connections has notified the Town of Erie that they have begun the Denver Regional Landfill's (DRL) final closure activities. The landfill is located south of County Road 6 and west of County Road 5. The last step in the closure is the re-grading and applying native grass seeding, the seeding is planned for fall.

Additionally, Waste Connections is wrapping up work to bring the southwest edge of the Front Range Landfill (FRL) to its permitted height. Upon completion, this location will also be seeded and should help in shielding view of ongoing operations directly behind that area and currently visible from the south, this is anticipated to occur in summer or fall, depending on weather conditions.

### Capital Improvement Projects

#### Lynn R Morgan Water Treatment Facility (WTF) Expansion & Hydroturbine

The hydroturbine finally arrived and is set. Start up and performance testing should be complete by the end of the month.



### **North Water Reclamation Facility (NWRF) Expansion**

Construction of this \$30+ Million project continues. We continue to modify activities to ensure minimal disturbance to the fledgling eagles, the last report as of July 30 is that both juveniles survived and are preparing to disperse from their parent's territory and feeding care. We anticipate an early 2022 project completion.



*Looking west towards new solids building*

## Sustainability and Water Conservation



### **Energy**

- Energy Action Plan updates underway. Specific goals identified to work on over the next 2 years is a renewable energy campaign and future support for the Green Business & HOA Certification program.
- Study Session for options to expand solar electric generation throughout town and on facilities took place on July 20 and 27.

### **Transportation**

- Electric vehicle charging stations have been used over 70 times in the first month after activation. This equates to 9 trees planted and reducing GHG emissions for 10 years.

### **Waste, Recycling, & Composting**

- The Recycling Center is now open 7 days a week from 8-4 p.m.
- Community engagement and HOA surveying began and input on curbside options is being gathered.
- Fall cleanup dates have been announced for landfill, scrap metal, electronics, paper shredding, leaves, pumpkins, and holiday trees.

### **Water Efficiency**

- EyeOnWater app has had over 300 signups this past month due to education and outreach efforts.
- Slow the Flow appointments are running out quickly! Sign up for an irrigation assessment today!
- Water waste code 8-1-10 and 8-1-11 were adopted July 27.

## Lynn R. Morgan Water Treatment Facility (WTF)

### Annual Daily Average Flow:

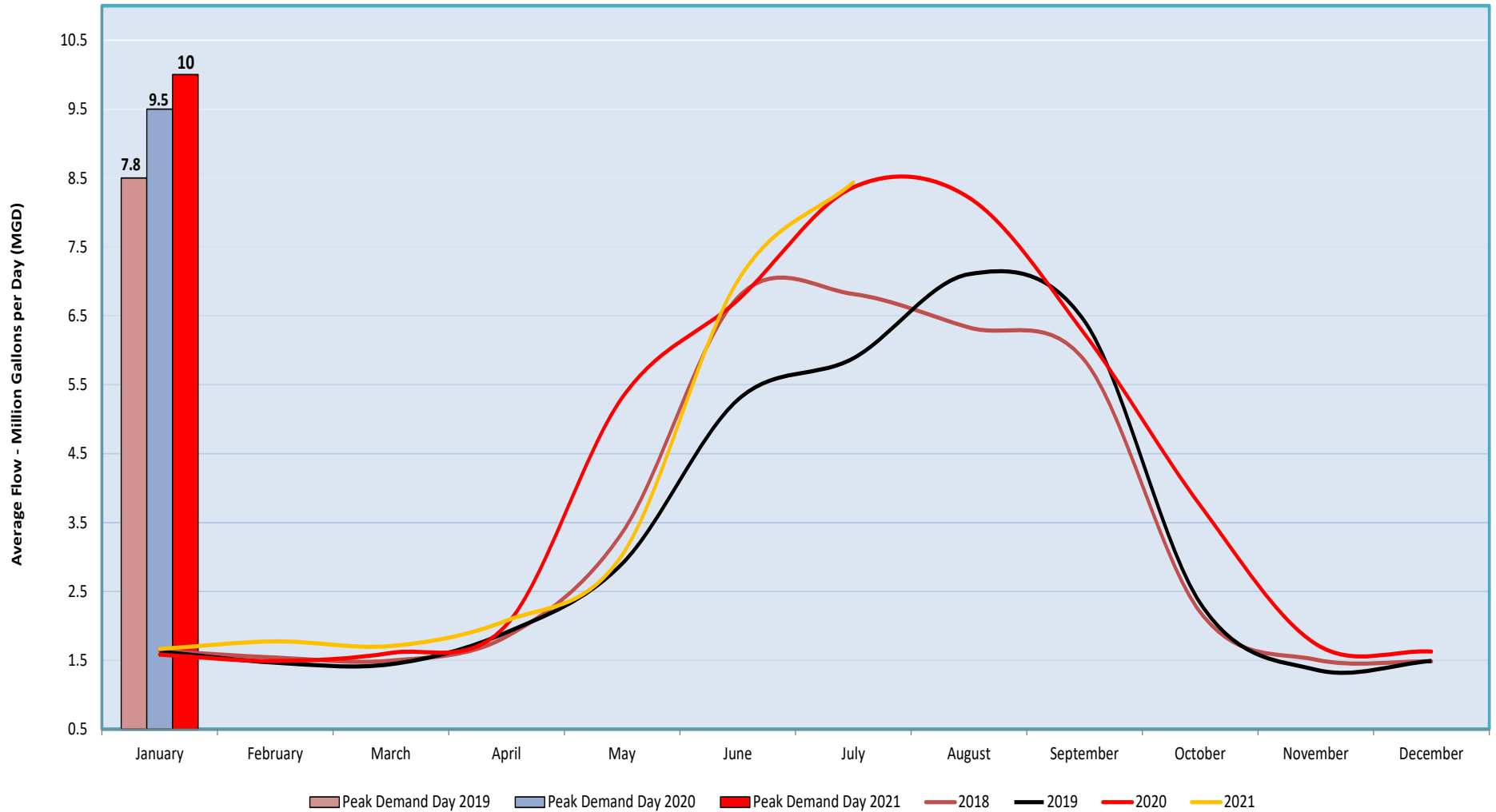
2018 – 3.4 MG

2019 – 3.3 MG

2020 – 4.1 MG

July 2021 maintains the record for the highest monthly average flows at 10 MG, while November 2019 had the lowest flows at 1.36 MG.

### Average Monthly Production



**Annual Daily Gallons Per Capita per Day (GPCD):**

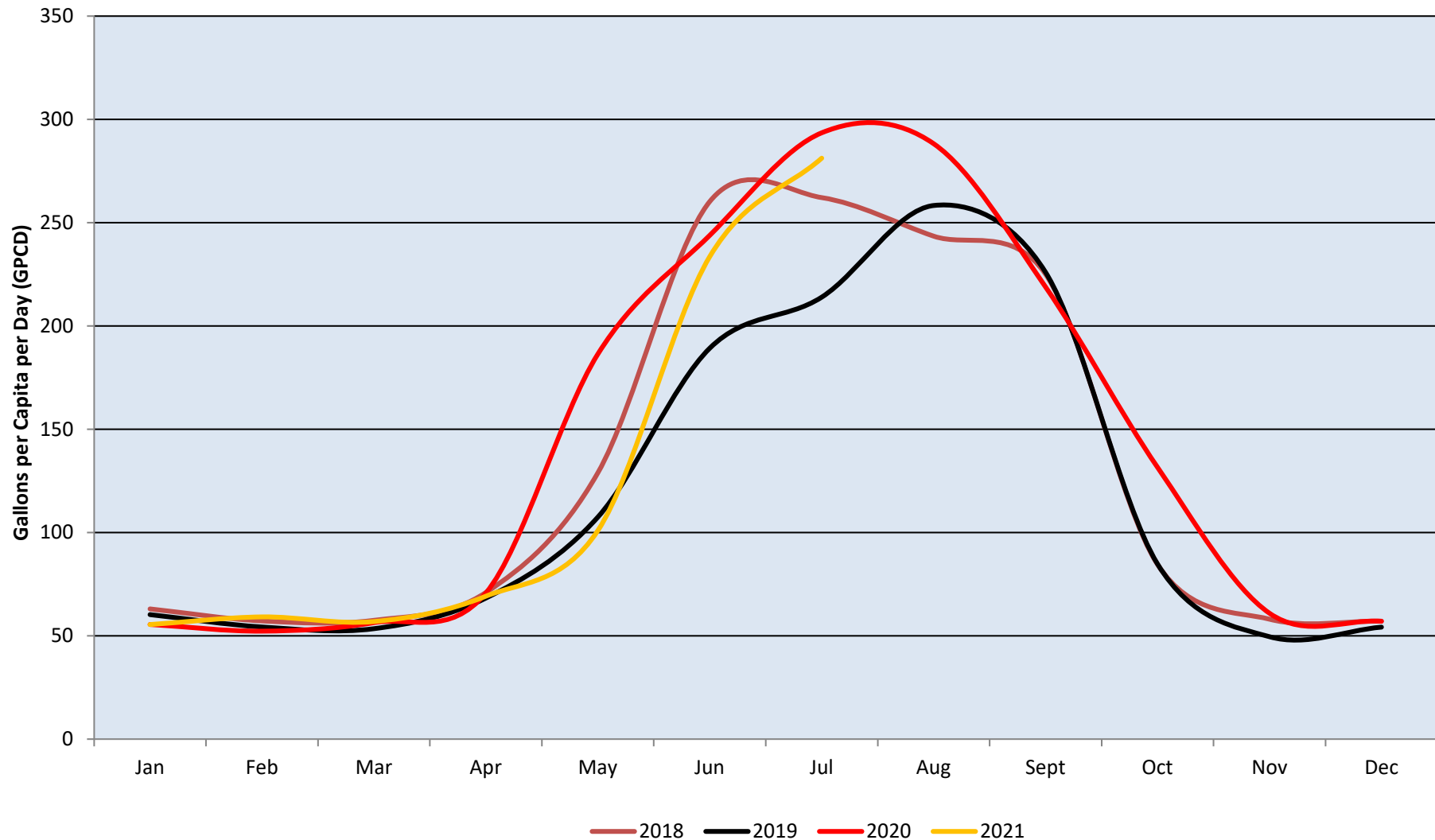
**2018** – 131 GPCD

**2019** – 118 GPCD

**2020** – 143 GPCD

July 2020 had the highest average daily usage at 294 gallons GPCD. November 2019 had the lowest usage at 50 GPCD. Indoor demands during winter remain relatively stable. Average daily usage took a big jump in 2020 due to COVID and drought. Reducing summer irrigation and increasing reuse water availability will reduce reliance on treated water supplies in the future.

## Average Daily Usage Per Capita





## North Water Reclamation Facility

### Annual Daily Average Flow:

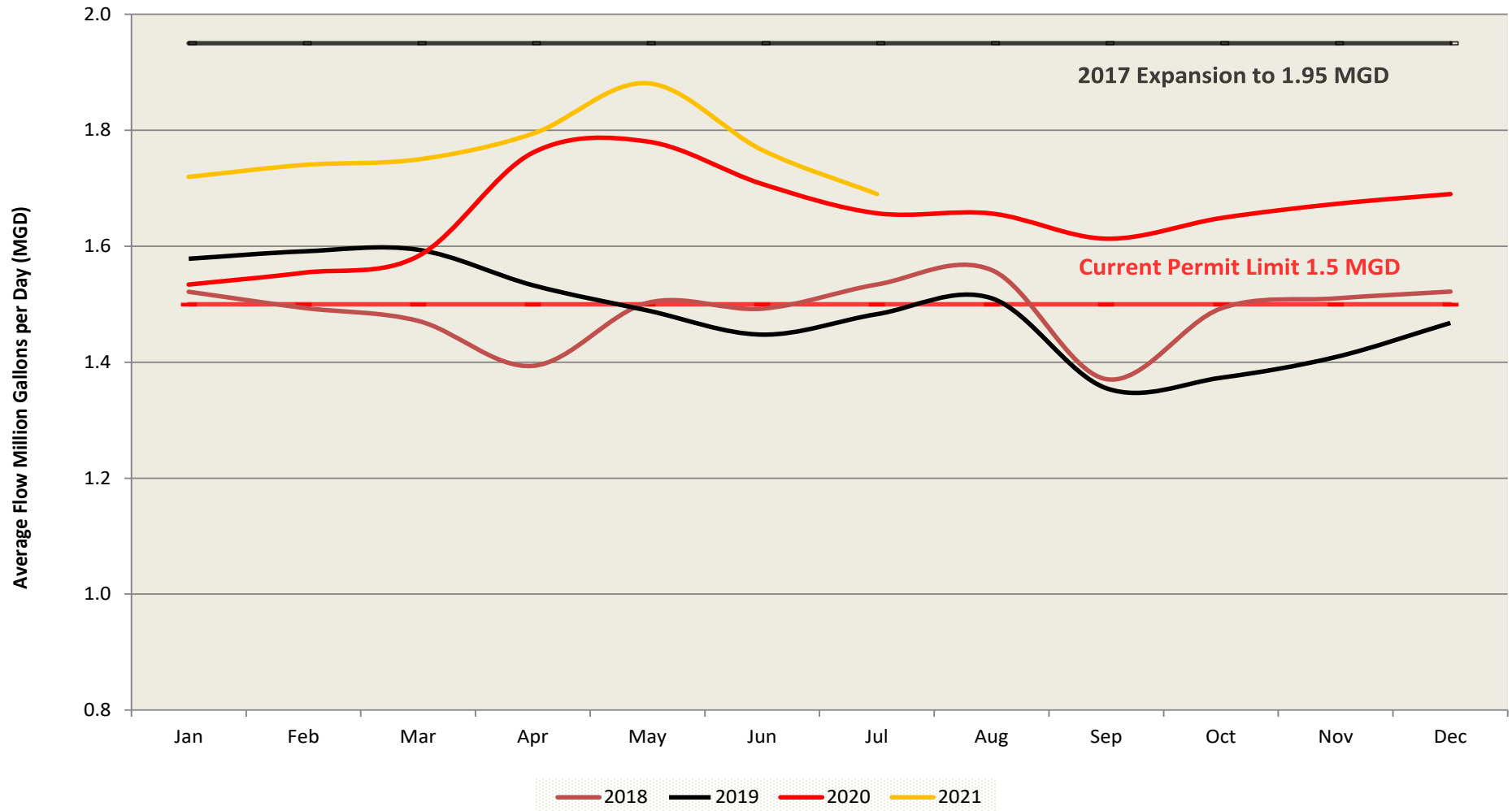
2018 – 1.49 MG

2019 - 1.49 MG

2020 - 1.66 MG

September 2019 had the lowest average flow of 1.36 million gallons per day (MGD). May 2021 set a high average monthly flow of 1.88 MGD. We have had conversations with staff at CDPHE and are aware that they are finally working on our permit renewal (5 years overdue), this could be a chance to get some of these issues corrected and staff and our consultants and legal team are working diligently on this. Flows are up with new development coming online.

### Average Monthly Flows



**Annual Daily Gallons Per Capita per Day (GPCD):**

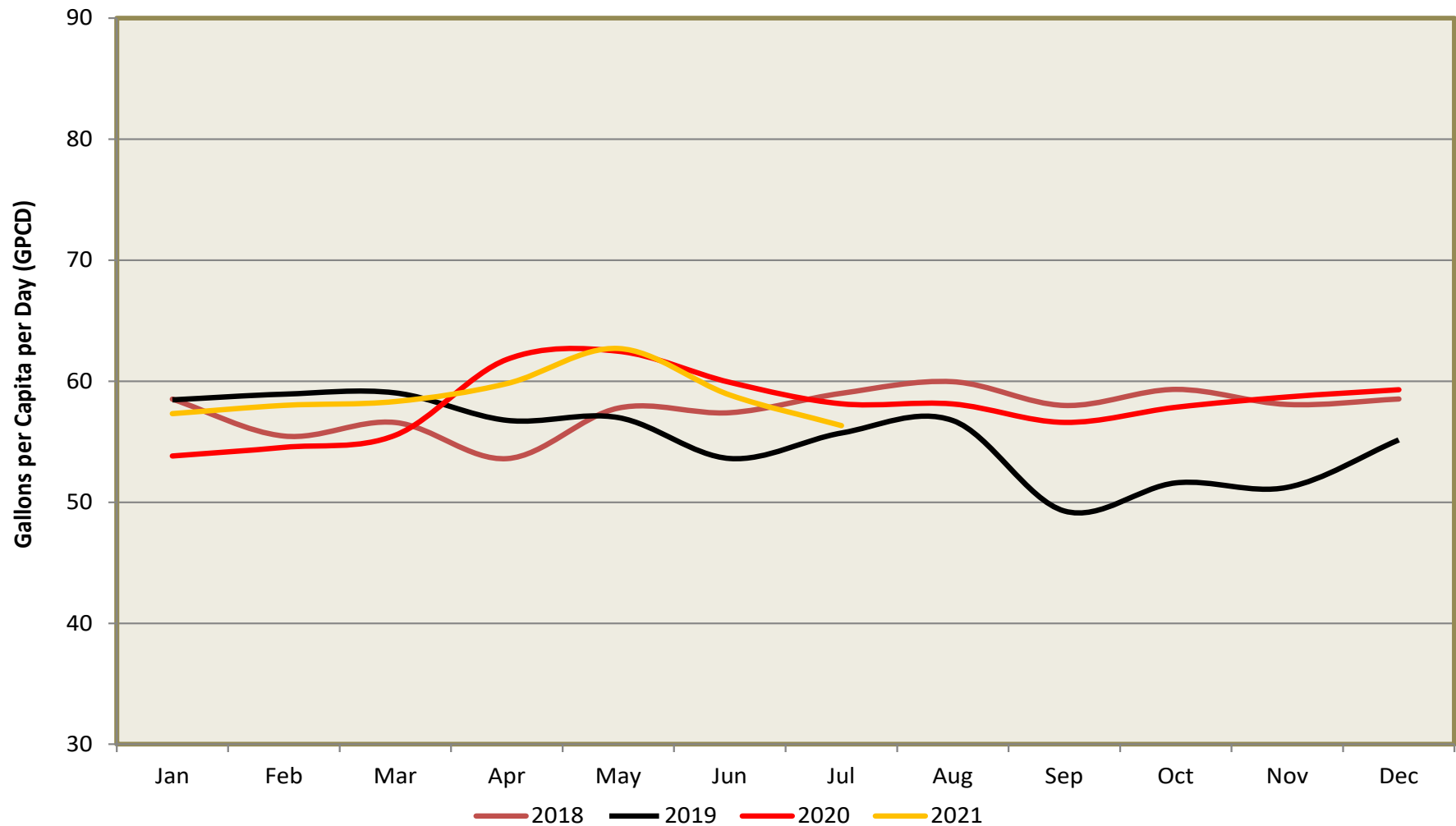
**2018 - 58 GPCD**

**2019 - 55 GPCD**

**2020 - 58 GPCD**

This graph depicts customer indoor water usage. May 2021 had the highest usage at 63 GPCD. September 2019 had the lowest usage at 49 GPCD. Fall, with relatively little precipitation and dropping groundwater levels, is a good indicator of true daily flows.

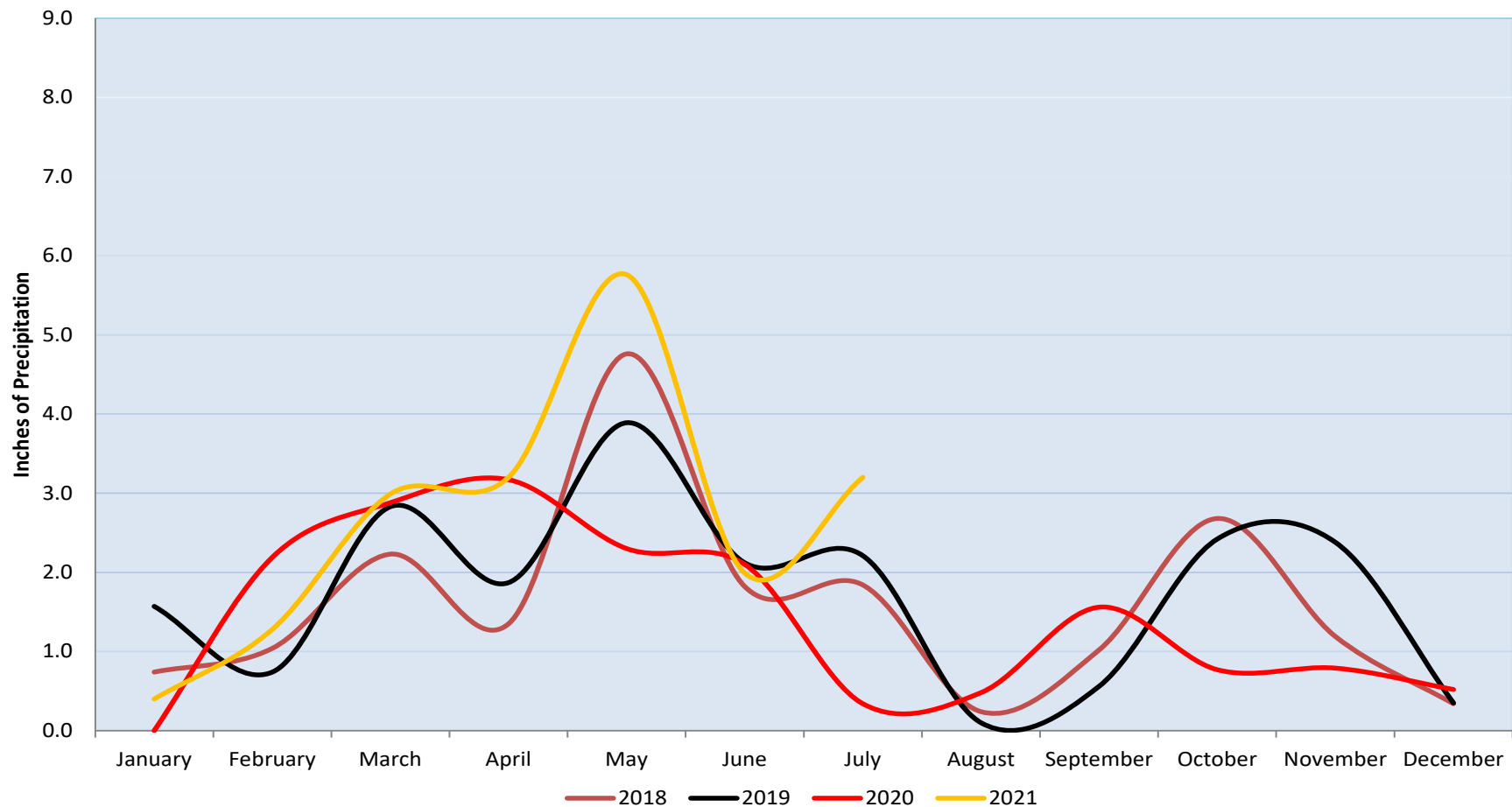
## Average Daily Usage Per Capita



## Monthly Data for Boulder – National Oceanic and Atmospheric Administration (NOAA) & Natural Resource Conservation Service (NRCS)

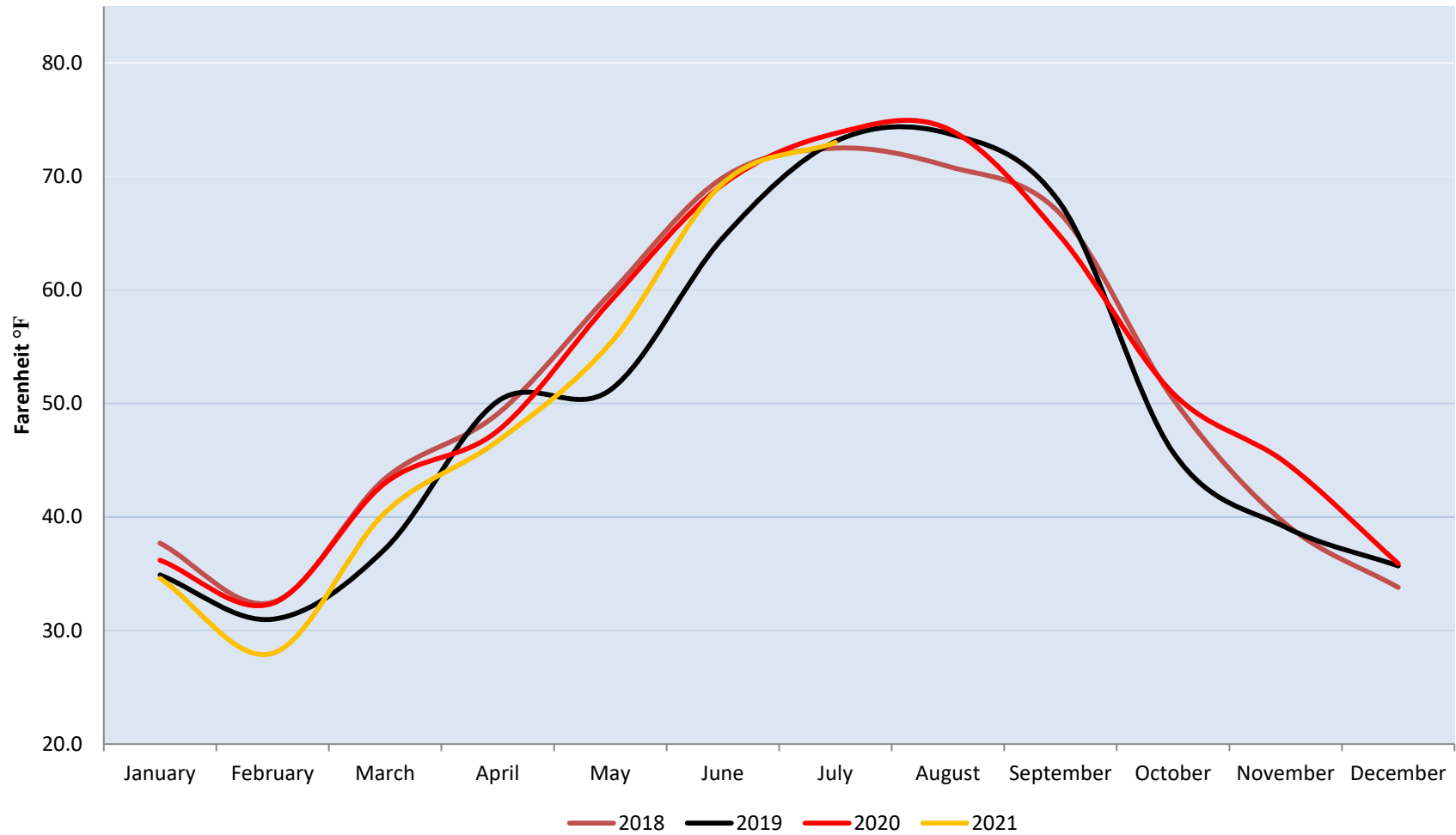
NOAA is predicting 33% below precipitation and 40% above normal temperatures through the end of the month. Drought conditions have improved markedly in the state due to recent precipitation this spring and summer, however the western half of the state is still seeing significant drought. Given the Town and much of the Front Range relies on Western Slope water supplies, this is still a concern and becoming a much larger issue across the western half of the US. National news has been focused on Colorado River shortages as well.

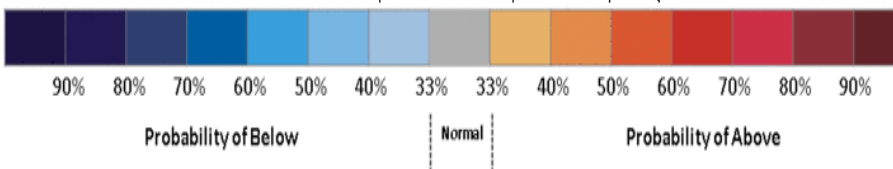
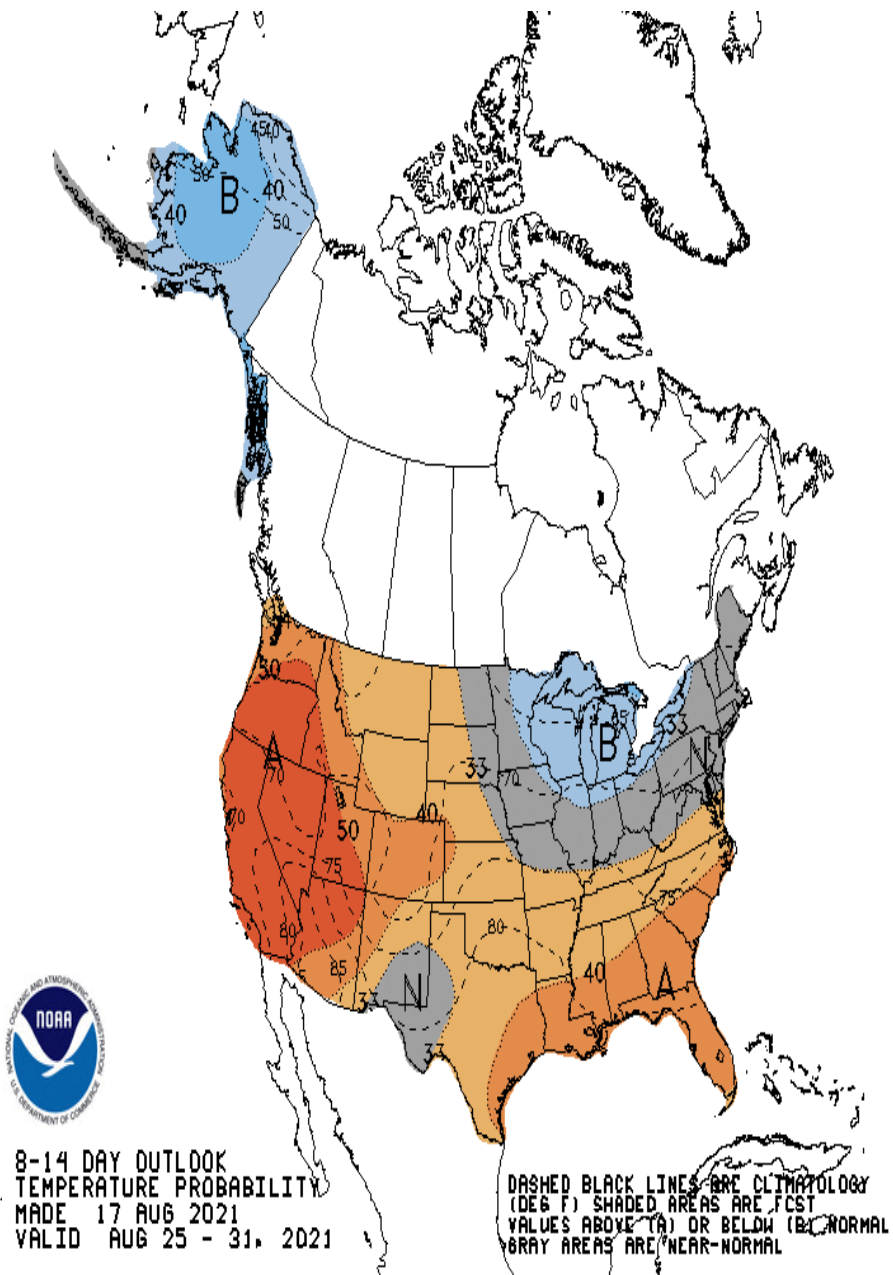
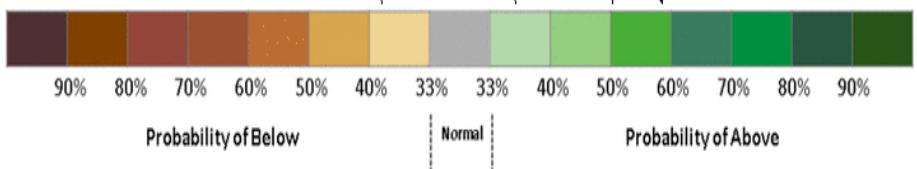
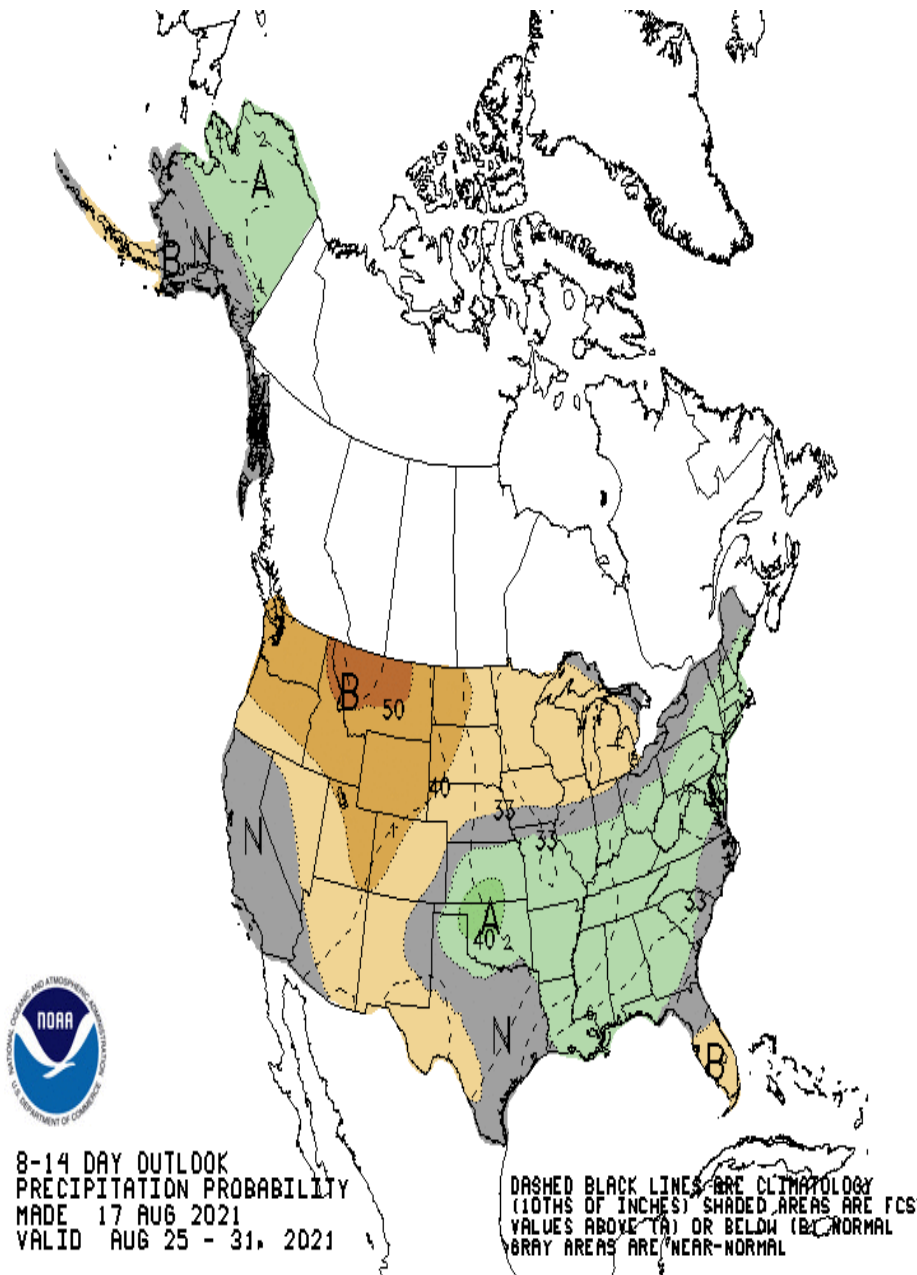
### Precipitation





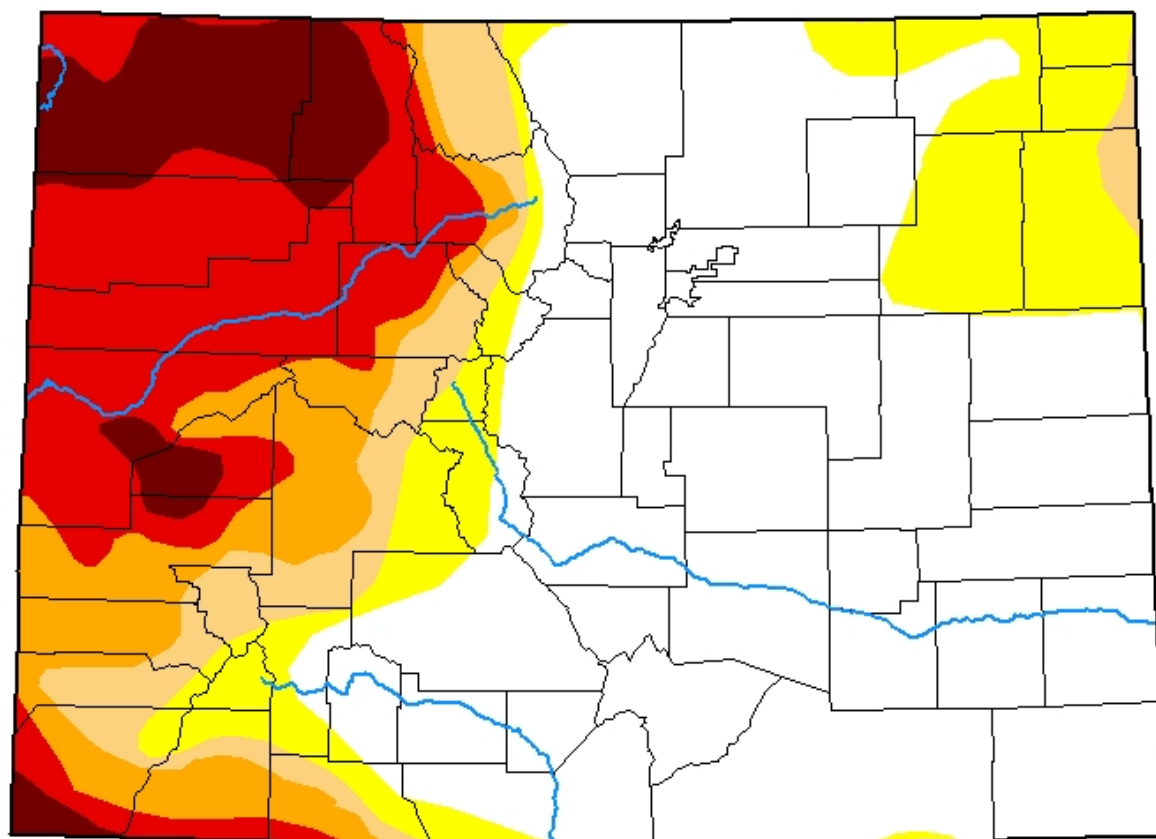
## Mean Temperature











# U.S. Drought Monitor Colorado

**August 10, 2021**  
(Released Thursday, Aug. 12, 2021)  
Valid 8 a.m. EDT



## Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

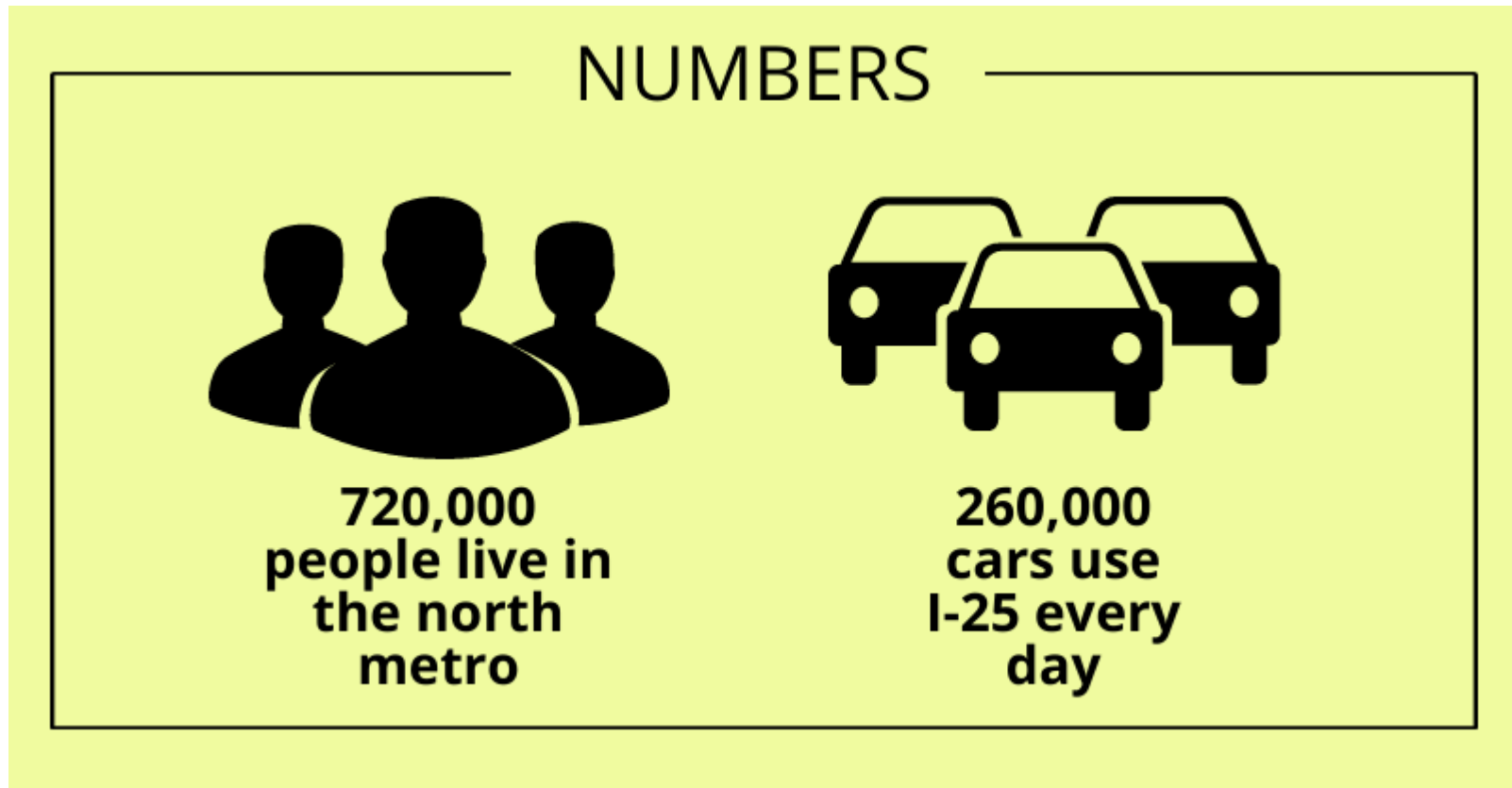
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

## Author:

Richard Tinker  
CPC/NOAA/NWS/NCEP



**droughtmonitor.unl.edu**



### Transportation and Transit

- Local Transportation Updates (attached)
- There are many efforts underway given the indication that the new Federal Administration is pro-transportation and looking to invest significantly in infrastructure.
- Attached this month is a presentation on the I-25 and SH7 Mobility Hub that the Town was instrumental in getting an additional \$12.5 million in State funds allocated to. Total current dedicated funds equal \$1.5 million for design and \$12.5 million in construction.
- Also attached is a short presentation on the SH7 Preliminary & Environmental Engineering Efforts by CDOT and various local partners.



# COLORADO

## Department of Transportation



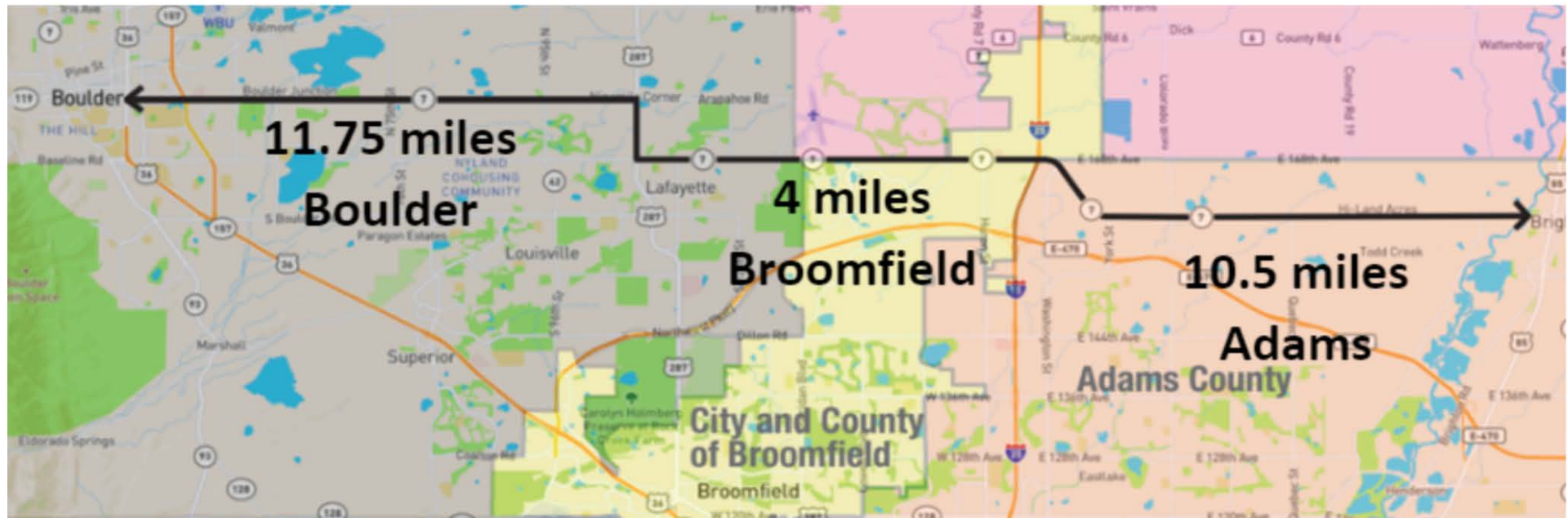
## CO 7 Brighton to Boulder Plan Update





# Local Partners

## CO-7 Coalition: From Brighton to Boulder







# CO 7 Corridor Preliminary Environmental and Engineering Project



## Brighton to Boulder

Project to implement preliminary design, planning materials, and overall coordination of upcoming construction projects.

Supported by Adams, Boulder and Broomfield Subregional Forums

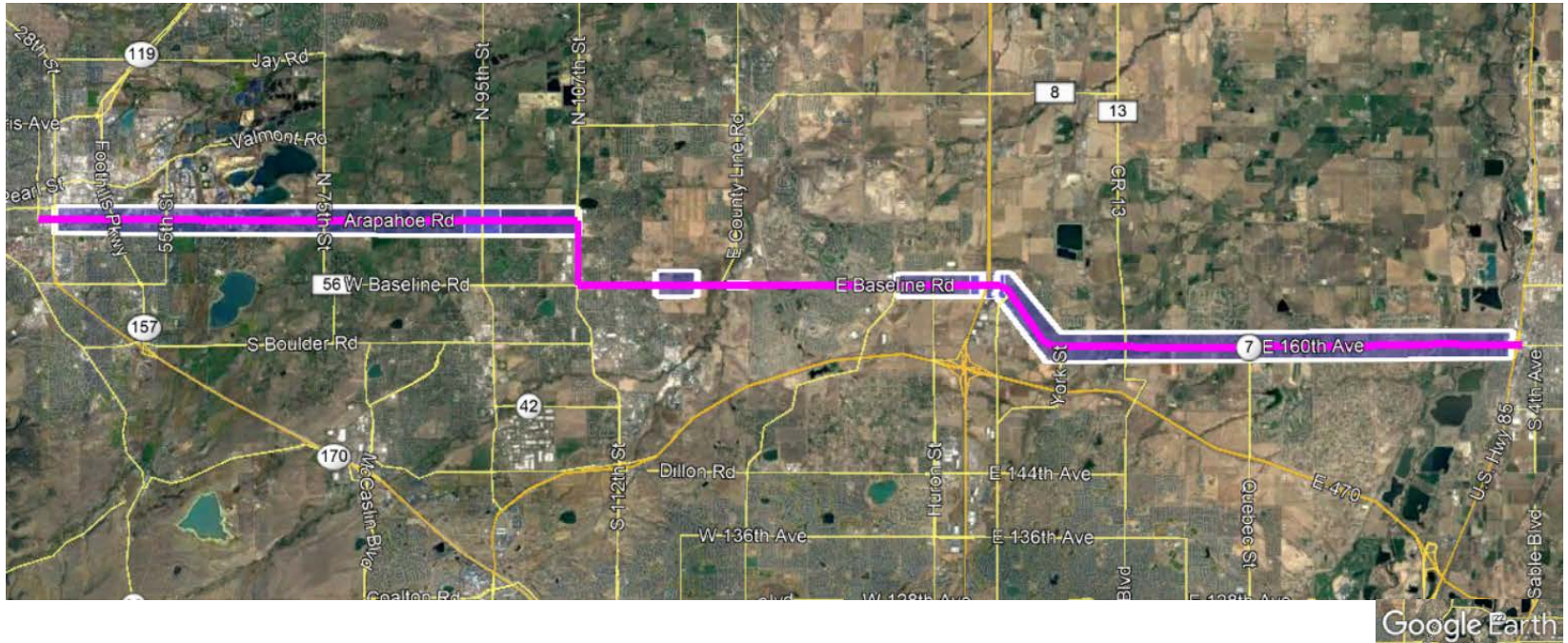
Awarded DRCOG 2020-2023 Regional TIP

- \$4 M from DRCOG Regional TIP
- \$4 M from Adams, Broomfield and Boulder subregional TIP funds
- \$1 M from CDOT R1 and R4
- \$1 M from local agencies



# CO 7 Corridor Preliminary Environmental and Engineering Project

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Areas Covered by Upcoming Public Projects





# CO 7 Corridor – Boulder to US 287



Resurfacing from 28<sup>th</sup> to US 287

- Turning Improvements at Willow Creek and Park Lake

## Corridor Development Plan - SIU A and SIU B

SIU	No.	Location	Title	Cost	Activity	
					Study	PE
A	2-20	Boulder	SIU A - 28 <sup>th</sup> to 64 <sup>th</sup> Street	\$1,467,000		X
B	1-1	Boulder, Boulder Co	BRT Concept Study (64 <sup>th</sup> - US 287) (SIU B)	\$180,000	X	
B	2-21	Boulder, Boulder Co	SIU B - 64 <sup>th</sup> Street to US 287	\$1,263,000		X



## CO 7 Corridor – 95<sup>th</sup> Avenue



95<sup>th</sup> Reconstruction – SB 260 Year 3B





# 119<sup>th</sup> Project Design Underway

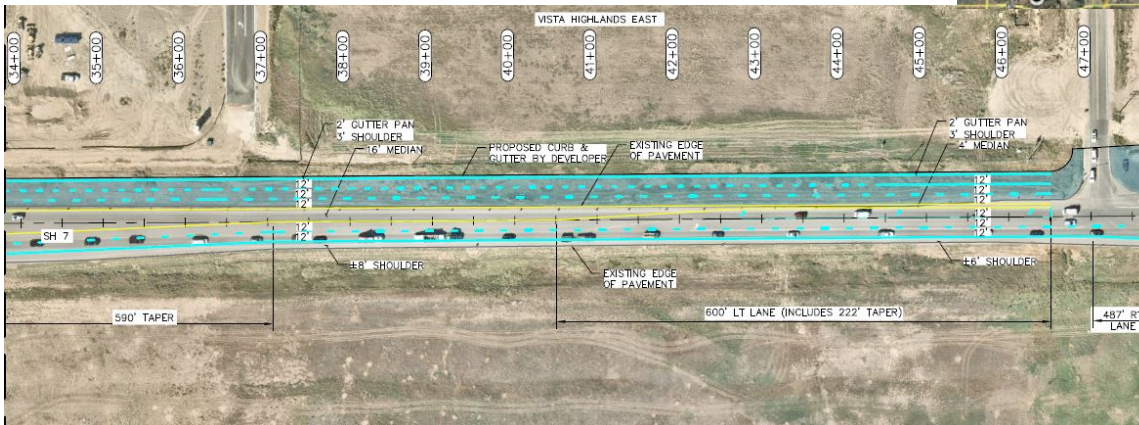


119<sup>th</sup> Street Reconstruction Project – Anticipated 2022 Construction Start  
Coordinating with Parkdale Sub-Division





# Project Design and Construction Funded Sheridan to I-25



Widening to Four-Lanes Sheridan Parkway to I-25





# CO 7 and I-25 Mobility Hub



CO 7 and I-25 Mobility Hub – SB 260 Year 3B



## CO 7 – I-25 to US 85



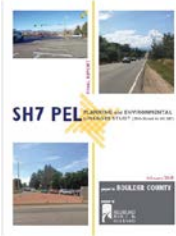
### Resurfacing from I-25 to US 85 – 2023 Construction

- Considering Safety Improvements at Colorado Blvd.
- Adding a Signal and Turn Lane Improvements at Holly Street
- Considering Riverdale Road for Safety Improvements

Analyzing Lowell Blvd., Quebec Street, and Riverdale Road for a separate Safety Project



# Corridor Development Plan - Building on Past Studies



CDOT Region 4 SH 7 PEL  
Study - 75<sup>th</sup> St. to US 287  
2018



CDOT Region 1 SH 7 PEL  
Study - US 287 to US 85  
2014



Bus Rapid Transit  
Feasibility Study  
2018



East Arapahoe  
Transportation Study  
2018

Common Themes:

- Safety
- Mobility
- Access to Transit Facilities
- Alternative Modes of Travel
  - Queue Jump Lanes and Transit Signal Priority
- Bicycle Network
- Pedestrian Network
- Highway Access
- Corridor Operations: Traffic (bus and vehicular)
- Congestion



SH 7 BRT Station  
Area Design  
2019



# Corridor Development Plan (CDP)

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- Corridor Development Plan Objective
  - Utilizing a multimodal vision prepare the corridor for strategic and rapid delivery as funding becomes available.

## CDP Goals

1

Advance  
Multimodal  
Improvements

2

Address  
Current  
Needs

3

Plan &  
Prepare  
for the  
Future

4

Complement  
Existing &  
Planned  
Infrastructure

5

Leverage  
Joint  
Opportunities

6

Provide Equity  
Across the  
Corridor





# Outcome of the Corridor Development Plan (CDP)

- The CDP was endorsed by the member communities on January 29, 2021

SIU	No.	Location	Title	Cost	Activity	
					Study	PE
A	2-20	Boulder	SIU A - 28 <sup>th</sup> to 64 <sup>th</sup> Street	\$1,467,000		X
B	1-1	Boulder, Boulder Co	BRT Concept Study (64 <sup>th</sup> - US 287) (SIU B)	\$180,000	X	
B	2-21	Boulder, Boulder Co	SIU B - 64 <sup>th</sup> Street to US 287	\$1,263,000		X
C	2-22	Lafayette, Erie, Bldr Co	SIU C - US 287 (N) to 119 <sup>th</sup> Street	\$224,000	X	
E	4-1	Erie	Erie Airport Entrance Rd Concept Plan	\$112,000	X	
E	2-7	Broomfield	Lowell Intersection	\$280,000		X
F	1-2	Broomfield	BRT Station Concept Plans (CR 7/Palisade)	\$112,000	X	
F	2-24	Broomfield	SIU F - Sheridan Pkwy to I-25	\$862,000		X
I	2-26	Thornton	SIU I - York to Holly Street	\$1,198,000		X
J	2-27	Thornton	SIU J - Holly to Quebec Street	\$560,000		X
K	2-28	Thornton	SIU K - Quebec to Yosemite Street	\$560,000		X
M		Brighton, Adams Co	Placeholder - TBD	\$224,000		
Total				\$7,042,000		

Planning Level Estimates



# Outcome of the Corridor Development Plan

- The Plan was endorsed by the member communities on January 29, 2021

Item	Description	Cost
<b>Corridor-wide Programmatic Activities</b>		
Corridor Development Plan	Develop the overall delivery plan for the Project.	\$250,000
Project Administration and Oversight	Provide overall management, administration, and oversight for the delivery of the Proposed Actions including contract, procurement, budget/schedule and quality management.	\$1,500,000
Aerial/LiDAR Mapping	Provide corridor-wide design level aerial photography, LiDAR and supporting target control surveys for cloud-based topography data collection.	\$200,000
Corridor Systems Planning Tool and Traffic Forecasts	Develop a corridor systems planning tool and dataset for land use and planning-level demand forecasting that can be administered and utilized by CDOT and the CO 7 Coalition in their ongoing land use and transit planning activities and develop design horizon traffic projections for preliminary engineering.	\$220,000
Environmental Analyses and Coordination	Perform environmental inventory and analyses pursuant with the CDP and coordinate resource issues with preliminary design activities.	\$360,000
Technology Deployment Plan	Develop a Smart Technology plan for the Corridor to identify design details and treatments to be included in the preliminary engineering considering emerging technologies and communications infrastructure.	\$115,000
Corridor Bike Treatment Plan	Develop a Corridor-wide plan addressing bike facility connectivity, standards, and design details for inclusion in the preliminary engineering activities.	\$103,000
Strategic Communications	Provide Corridor-wide strategic communications including, but not limited to, branding, CO 7 Coalition coordination, public official briefings, media relations, Corridor-based communications, and coordination of stakeholders and general public involvement.	\$210,000
<b>Recommended Proposed Actions</b>		
Proposed Actions (Priority 1)	Complete concept studies and deliver preliminary engineering and plans for the highest value Proposed Actions constrained to the budget.	\$7,042,000
<b>Total</b>		<b>\$10,000,000</b>

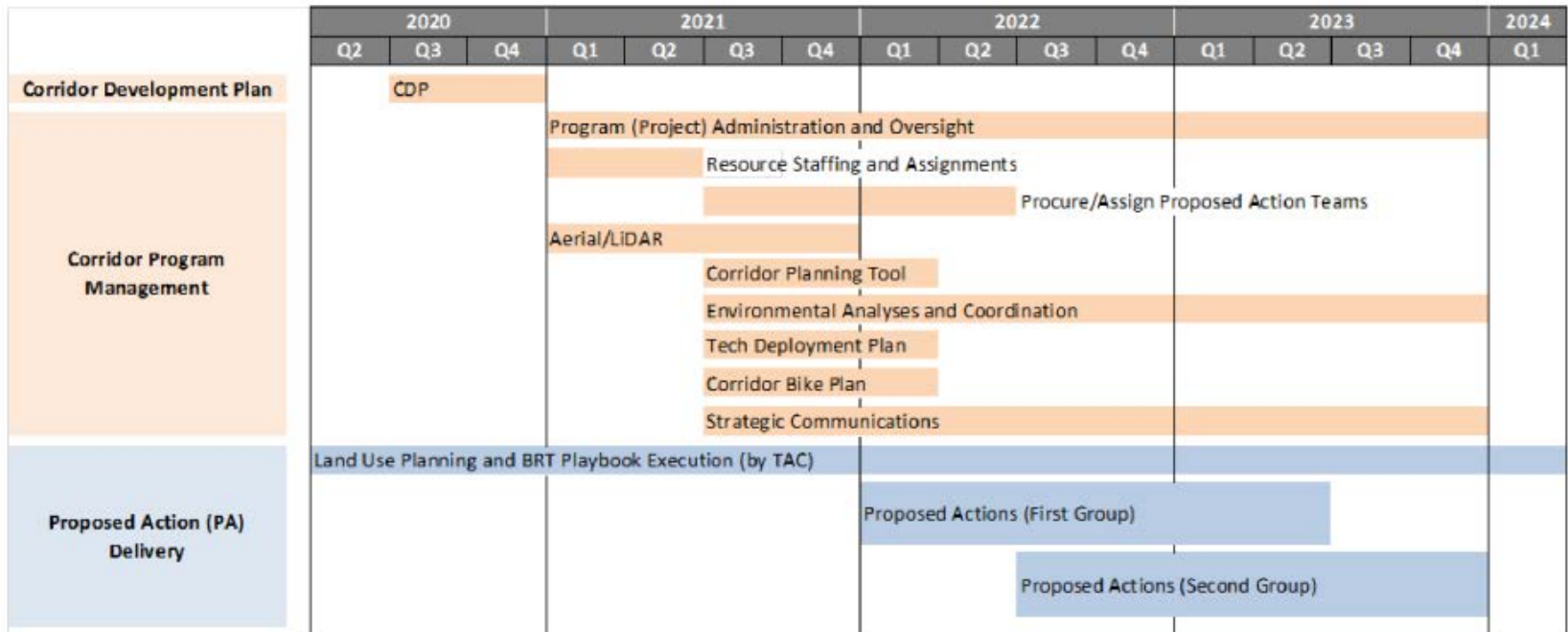
Planning Level Estimates





# CDP Schedule

## Program Delivery





# CDP Current Schedule

## Program Delivery

	2020			2021				2022				2023				2024	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
Corridor Development Plan	CDP																
Corridor Program Management				Program (Project) Administration and Oversight													
				In Progress				Resource Staffing and Assignments									
				In Progress				Procure/Assign Proposed Action Teams									
				Aerial/LiDAR Survey				Deliverable Mid-November 2021									
				Forming SOW				Strategic Communications									
				Forming SOW				Broomfield Transit Station Location									
				Forming SOW				Erie Airport Entrance Road Concept Plan									
				Forming SOW				Corridor Bike Plan									
								Corridor Planning Tool									
								Tech Deployment Plan									
Proposed Action (PA) Delivery								Environmental Analysis and Coordination									
								Forming Design Teams				Proposed Actions					
												Forward Projects					
	Land Use Planning and BRT Playbook Throughout																

### Current Actions

- Procure Consultant Service
- Pre-Scoping Design Packages – August 2021
- Set Staffing
- Determine Spin-off Safety Construction Package(s)



## Next Steps

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### Procure Consultant Services

- Program Controls and Project Management Services
- Communication Management Services
- Broomfield Station Location
- Preliminary Airport Road Concept Plan
- Bike Treatment Plan
- Roadway Design Specialty Group Services for Roadway Design Packages

### Pre-Scope Roadway Designs

Begin Roadway Design Late 2021/Early 2022



# Questions

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Department of Transportation

## I-25 & CO-7: Interim Transit Improvements



Project No: 267 0253-288  
Subaccount No: 24548

Presented by:  
Tom Magenis, PE  
CDOT Region 1, North Program





# Existing Condition







# Future I-25/CO-7 Mobility Hub

- CDOT's 5-10yr Plan:
  - Currently unfunded
  - Estimated Cost is >\$200M
  - FIR Level (30%) Design completed in 2018:
    - Repurposed remaining 21645 funds to advance certain areas of the 2018 FIR Plans (structures, ROW, drainage, etc). This is in process...
- What's included:
  - CO-7: DDI interchange replacement (*Subaccount No. 21156*):
    - Updated in Rod 1 (October 2017)
    - BRT sawtooth station
    - Pedestrian mezzanine level
  - I-25: widening (E-470 to CO-7) (*Subaccount No. 21645*):
    - Standard shoulders, buffered Express Lane & Aux Lanes
    - Median Bustang boarding station
  - Park-n-Ride (SE Corner)
  - Various other Transit & Pedestrian amenities

Link to Mobility Hub Rendering Video:

<https://www.youtube.com/watch?v=Udx0FCki05I>



# Diverging Diamond Interchange (DDI)





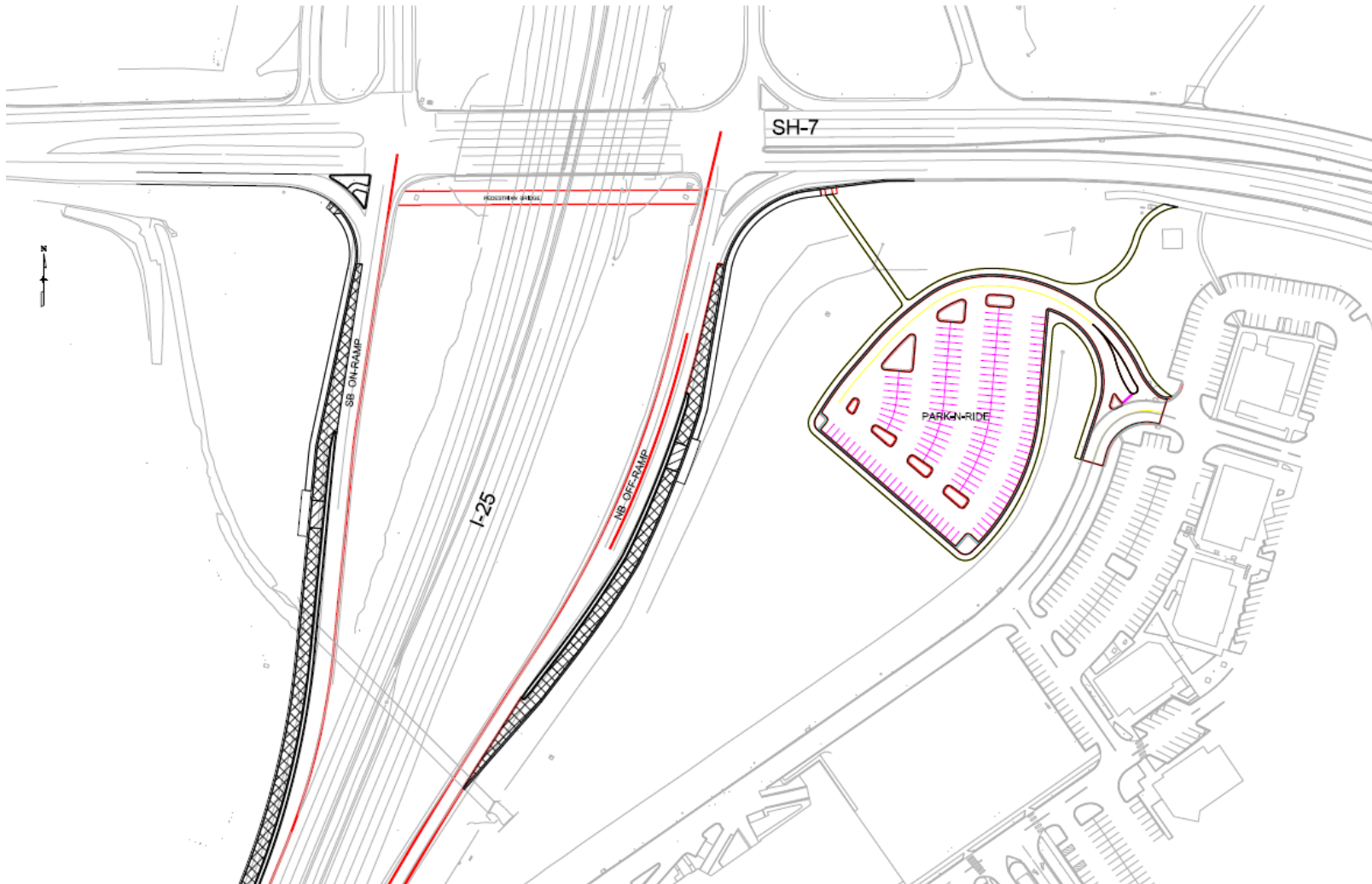
# Interim Transit Improvements

- Previous RAMP application:
  - City of Thornton submitted in 2013 that identified transit improvements that were not advanced
- \$14M Budget:
  - Design: \$2.0M (\$1.5M SB267 YR3 + \$500K SB260)
    - 12-18 months schedule
  - Construction: \$12M (SB260)
    - Anticipating 2023 construction
- What's included:
  - Bustang slip ramps (NB off-ramp & SB on-ramp)
  - Bus shelters
  - Pedestrian Bridge
  - Park-n-Ride (Partial build-out of ultimate)
  - Sidewalk connectivity
  - Other potential items (TBD):
    - Uber/Lyft accommodations
    - Charging stations



# Interim Transit Improvements Cont...

I-25 & SH-7 SLIP RAMP





# Interim Transit Improvements Cont...

- Completed to date:
  - Scoping level design:
    - CAD work
    - Cost Estimate
    - \$1.5M Design budgeted (Additional \$500K SB 260 will come later)
  - Internal Pre-Scoping Meeting held on July 12<sup>th</sup>, 2021:
    - Heavy consultant need was determined
- Next Steps:
  - Develop consultant design scope-of-work (*in process*):
    - Determine procurement method (NPS or RFP)
  - DTR to submit Mobility Hub Area Plan in August:
    - Plan will derive amenities; ridership, ITS, car charging, etc.
  - Continue to coordinate with the CO-7 Corridor Project
  - Future stakeholder and developer engagement





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**Questions?**

