October 10, 2022

We should be looking at using the problem of flooding in the Mississippi River Basin to solve the problem of the lack of water in the Colorado River Basin. A Win/Win scenario.

Since 2009 Canalis Engineering Solutions in Albuquerque has been developing a proposal to repurpose floodwaters. As a reference we just need to think about Hurricanes Katrina, Harvey and Florence plus the nearly annual flooding of the Mississippi River Valley. The goal is to harvest and move these waters to reservoirs in the arid Southwest States and southern California.

‘Whiskey is for drinking; water is for fighting’
‘Water compacts continue to divide water volumes that do not exist today’
‘Water is the next oil’
Oil and natural gas booms come and go
Water is a necessity of life

Over the years many pipeline proposals have been put forth to redirect a small portion of Mississippi River water during normal flow and larger volumes during flood events. The conclusion has been *'it is too expensive to bury more pipelines for such a task'*.

Canalis Engineering Solutions has taken exception to this conclusion.

As a Nation, we are spending too much money to reactively rebuild areas after being devastated by flooding.

Proactively attacking both problems to solve each will always make more sense in so many ways.

To minimize digging, the Canalis Engineering Solutions’ proposal utilizes the large quantity of abandoned and inactive large diameter pipelines as much of the ductwork. As ductwork one or more new, smaller diameter pipe inserts carries the water. Some new piping will be necessary to complete links.

FYI…As rate payers we pay the Federal Energy Regulatory Commission (FERC) to map and maintain these abandoned pipelines.

As we have seen in years past NOAA's satellites and computerized modeling can very nearly pinpoint where storms will deposit large amounts of rainwater. Then when the expertise has shown its accuracy we watch, via the same satellite imagery and aircraft mounted cameras, as these huge volumes of water make their way to their ultimate discharge into Gulf of Mexico or the Atlantic Ocean.

Additionally…attaching our proposed system to existing municipal storm sewers in cities like Houston and New Orleans, floodwaters may be moved out of the area by exponentially expanding the storm sewer system. Think back to Hurricane Harvey events…with our proposed system in place, water levels may be proactively lowered in area reservoirs to provide space to pump water.

Likewise, collection structures in strategic locations within the Mississippi River's drainage area can proactively reduce flooding while moving the water to reservoirs. The Emergency – National Security 50 Projects provide opportunity to plug our proposal into an existing system.

Our proposal does move water uphill with the aid of pumps and syphon systems. Once that is done the water becomes a reservoir of potential energy…a battery. As the water is released, off-the-shelf inline generators provide electrical energy to the system or grid.

Canalis Engineering Solutions is proposing a leapfrog pattern by connecting many existing dots* and building some new dots, too.

*This proposal will touch, but not be limited to:

- Various government agencies...NOAA, USACE, BIA, BLM, FERC, FEMA
- Pumps:
  - Diesel/gasoline powered
  - Ram pumps (use headwater pressure)
  - Siphons
- Develop a workforce to create the harvesting and transportation system.
- Design professionals…architects and engineers
- Water compacts…
  - too many band aides over the years that just keep lawyers busy without providing any water
  - Water does not recognize man-made jurisdictions
- Native American Nations
  - Goes toward reducing high unemployment rate
  - Provide other sources of income
  - 8(a) contractors
  - Develop a more equitable sharing of the water than what is available under current agreements
- Western Governors' Association
  - Members are flood prone States
  - Members are arid States
- Electrical energy from firms like PNM with any excess production capability...fossil fuel, wind and PV farms.
- The universities in New Mexico
- Sandia and Los Alamos National Laboratories
- Develop a system operations headquarters in New Mexico.
- Reservoirs:
  - River valleys, like the Colorado, Pecos and Rio Grande then directly or indirectly into existing man-made lakes along these rivers
  - Open pit mines available for reclamation
  - Snow on mountains
  - The pipelines themselves

It is important to note, this proposal does not mimic the efforts in other areas of the USA.
Mimicking, as we are prone to do, dilutes all efforts.

Back in 2017 representatives of New Mexico Tech said a feasibility study for this proposal would cost from $750,000 to $1,000,000. Today the $1,000,000 may be the low number.

Bottom line...

Being **reactive** with floodwater destruction is not working unless the goal is to spend billions of dollars over and over and over and over….we are good at this…while solving nothing.

A **proactive** system can go a long way to prevent devastation by floodwater, provide water where it is desperately needed while spending the money with a better Return on Investment (ROI).

Merlyn Nyght
Canalis Engineering Solutions
Attached: Emergency – National Security 50 Projects

Colorado River water users convening

Conference meets amid growing concern over water use, climate change

BY KEN RITTER

ASSOCIATED PRESS

LAS VEGAS, Nevada — Living with less water in the U.S. Southwest is the focus this week for state and federal water administrators, tribal officials, farmers, academics and business representatives meeting about the drought-stricken and overpromised Colorado River.

The Colorado River Water Users Association conference comes at a time of growing concern about the river's future after more than two decades of record drought attributed to climate change.

"The Colorado River system is in a very dire condition," Dan Bunk, a U.S. Bureau of Reclamation water manager, declared during internet presentations streamed Nov. 29 and Dec. 2 that invited public comment about possible actions.

"Flows during the past 23-year period … are the lowest in the past 120 years and (among) the lowest in more than 1,200 years," Bunk told the webinar audience. The deadline for public submissions is Dec. 20 for a process expected to yield a final report by summer.

Bunk said the two largest reservoirs on the river — Lake Mead behind Hoover Dam on the Nevada-Arizona state line and Lake Powell formed by the Glen Canyon Dam on the Arizona- Utah line — are at unprecedented low levels.

Scientists attribute extended drought to warmer and drier weather in the West to long-term, human-caused climate change. The effect has been dramatic on a vast river basin where the math never added up: The amount of water it receives doesn't meet the amount that is promised.

Lake Powell's drop last March to historically low water levels raised worries about losing the ability — perhaps within the next few months — to produce hydropower that today serves about 5 million customers in seven states.

Reclamation water managers responded with plans to hold back more water in Lake Powell but warned that Lake Mead water levels would drop.

The U.S. Bureau of Reclamation in June told the seven states that are part of the Colorado River Basin — Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming — to determine how to use at least 15% less water next year, or have restrictions imposed on them. Despite deadlines, discussions have not resulted in agreements.

Bureau officials use the image of pouring tea from one cup to another to describe how water from Rocky Mountain snowmelt is captured in Lake Powell, then released downriver through the Grand Canyon to Lake Mead. About 70% is allocated for irrigation, sustaining a $15 billiona- year agricultural industry that supplies 90% of U.S. winter vegetables.

The two lakes, combined, were at 92% capacity in 1999, Bunk noted. Today, they are at 26%.

"Due to critically low current reservoir conditions, and the potential for worsening drought which threatens critical infrastructure and public health and safety … operational strategies must be revisited," Bunk said.

This year’s meeting of water recipients begins Wednesday at Caesars Palace. The event theme, “A New Century for the Colorado River Compact,” marks 100 years since a 1922 interstate agreement divvied water shares among interests in the seven states now home to 40 million people and millions of farmed acres

Priority List

Emergency & National Security Projects

President-elect Trump

Basic Metrics - Running Total/ Initial 50 Projects

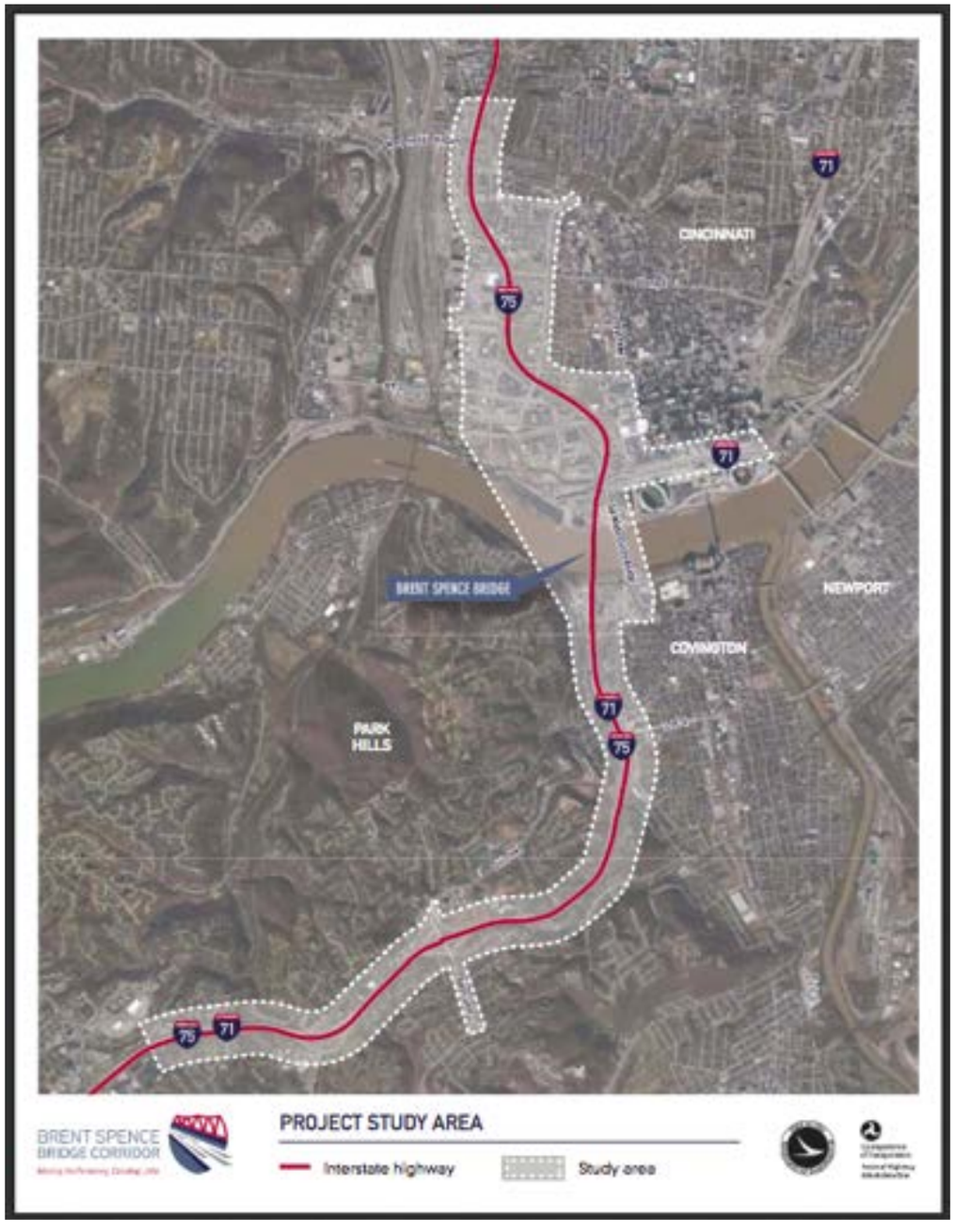
- Total Investment: $137.5 Billion
- Private Investment: 50%
- Jobs
  - Direct: 193,350 job years
  - Indirect (est.): 241,700 job years
  - Long-term:

1. Gateway Program

1. Description: Reconstruction of critical, high-risk Northeast Corridor rail infrastructure between Newark and New York City
2. Authority: Amtrak, Port Authority of New York & New Jersey (Gateway Development Corporation)
3. Cost: $12 billion
4. Jobs: 15,000 Direct Jobs; 19,000 Indirect Jobs; Average = $73,000/yr
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: seeking Federal

2. The Brent Spence Bridge

1. Description: The interstate highway bridge was built in 1963 and is carrying twice its original capacity. There are no shoulders on the bridge and the lanes are too narrow for today's traffic. It is the major cause of delays on I-75 and the site of numerous fatal auto accidents. The FHWA ranks it as the 15th worst bridge in the country.
2. Authority: Ohio and Kentucky DOT
3. Cost: $2.5 billion
4. Jobs: 2,200 Direct Jobs
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: seeking Federal

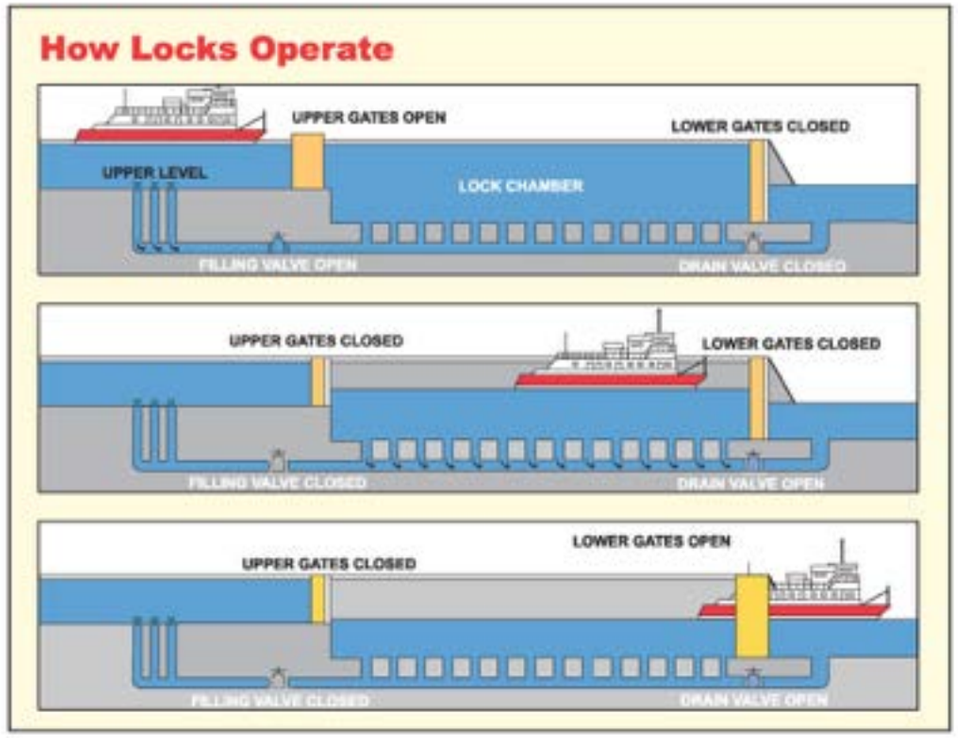


3. National Research Lab for Infrastructure

1. Description: Conceived along the lines of the old Bell Labs, this R&D center would develop and commercialize infrastructure technology of the future. The lab would be sited in Columbus, Ohio and work closely with Ohio State University National Transportation Research Center and Battelle Labs.
2. Authority: U.S. Infrastructure Commission
3. Cost: $2 billion
4. Jobs: 2,300 Direct Jobs
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: seeking Federal

4. Locks and Dams 52 and 53 on the Ohio River

1. Description: This USACE project has been in development for 30 years and addresses the choke point for all barge traffic on the Ohio/ Mississippi Rivers. Delays are up to three days, significantly increasing costs and making U.S. producers less competitive in the global commodities market.
2. Authority: U.S. Army Corps of Engineers
3. Cost: $3 billion
4. Jobs: 1,500 Direct Jobs
5. Status: Construction underway
    - 5.1. Engineering: Complete
    - 5.2. Permitting: Complete
    - 5.3. Funding: Annual Federal, constrains pace of work



5. I-95 Critical Highway Repairs, North Carolina

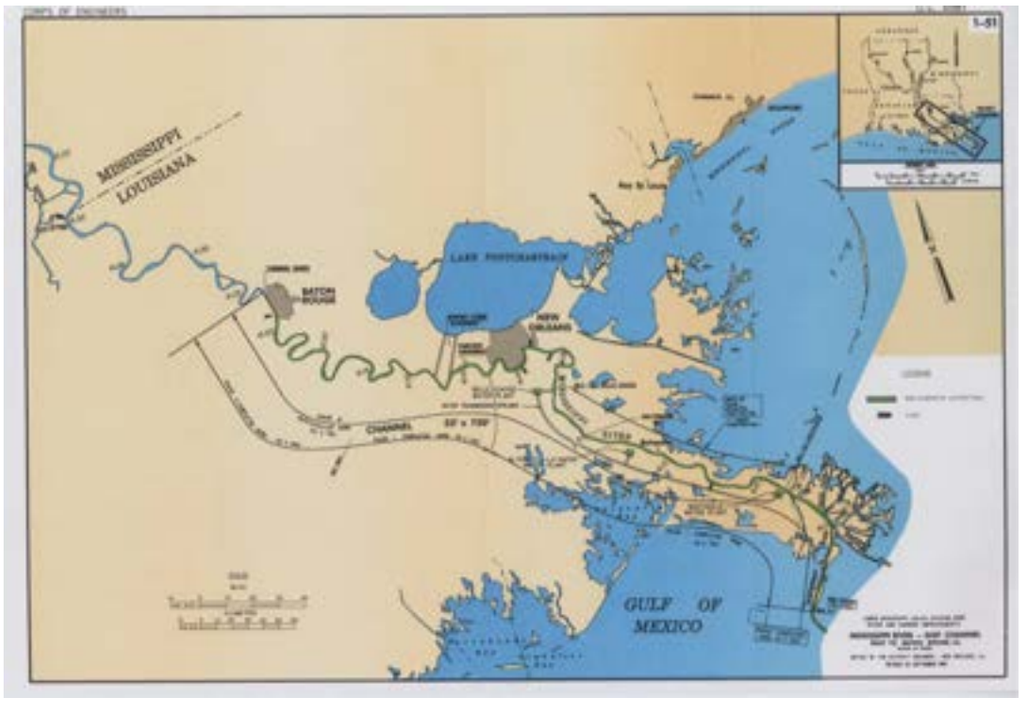
1. Description: This was one of the first sections of I-95 built and is ranked by the Federal Highway Administration as a top priority and one of the most critical highway repairs needed. I-95 is the busiest interstate in the nation, and this section is a major freight corridor.
2. Authority: NC DOT
3. Cost: $1.5 billion
4. Jobs: 5,400 Direct Jobs
5. Status
    5.1. Engineering: in progress
    5.2. Permitting: in progress
    5.3. Funding: seeking Federal

6. 15 Bridges on I-95, Philadelphia

1. Description: All 15 bridges are structurally deficient and need to be repaired or replaced.
2. Authority: Pennsylvania DOT
3. Cost: $8 billion
4. Jobs: 15,800 Direct Jobs
5. Status
    5.1. Engineering: in progress
    5.2. Permitting: in progress
    5.3. Funding: seeking Federal

7. Mississippi River Shipping Channel Dredging, South Louisiana

1. Description: The complex of ports and shipping facilities located along the Mississippi River in South Louisiana is the largest in the Western Hemisphere by tonnage, connecting 31 up-river states to global markets. However, the Mississippi River Ship Channel depth is not sufficient to accommodate the deep-draft vessels now transiting the expanded Panama Canal, hurting the competitiveness of the ports and the inland industries dependent on them. Congress authorized a 50-foot channel depth in 1985, but the work has never been funded.
2. Authority: Port of South Louisiana/USACE
3. Cost: $1 billion
4. Jobs: 200 Direct Jobs
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: seeking Federal

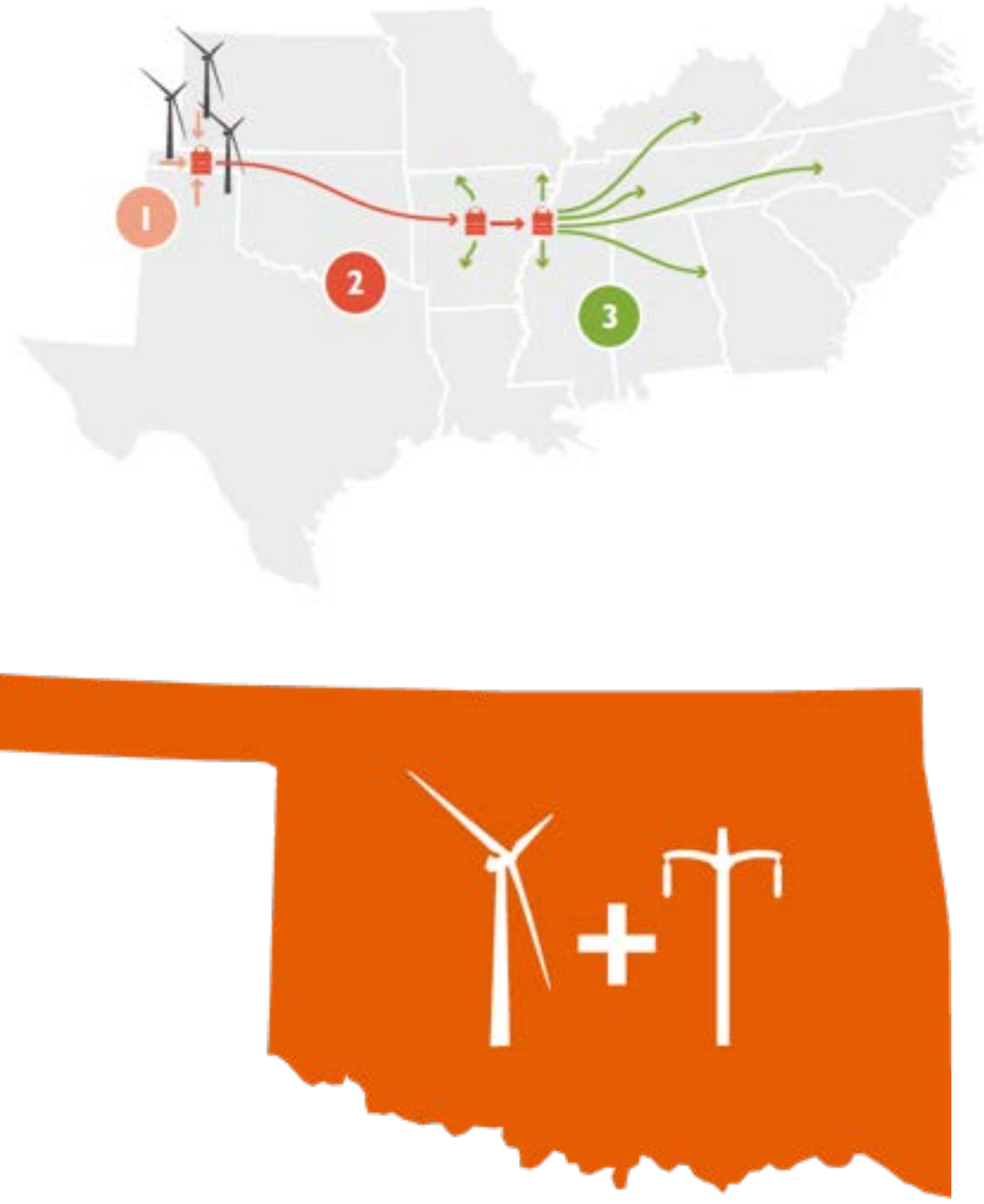


8. NextGen Air Traffic Control System

1. Description: Replacing outdated radar-based systems with satellite-based systems to increase air traffic capacity by 50%, shorten flight times, save billions in fuel and make the system safer and more efficient.
2. ..Authority: FAA
3. Cost: $10 billion
4. Jobs: 2,300 Direct Jobs
5. Status
    5.1. Engineering: in progress
    5.2. Permitting: in progress
    5.3. Funding: seeking Federal

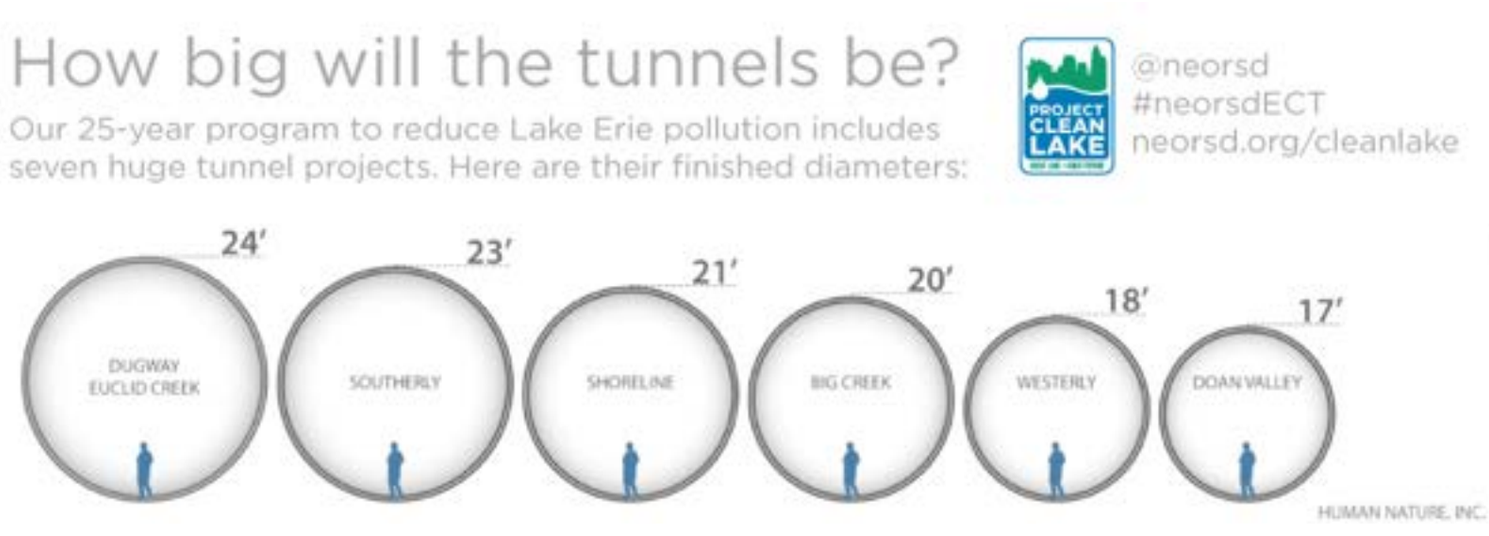
9. Plains and Eastern Electric Transmission Lines

1. Description: This 720-mile transmission line will move cheap, clean, wind power energy from the Oklahoma panhandle to Memphis, Tennessee. This is a national security project that can add resiliency to our electrical grid. The project will deliver enough low-cost clean energy for more than 1 million homes in the mid-South.
2. .Authority: Clean Line Energy Partners
3. Cost: $2.5 billion
4. Jobs: 3,300 Direct Jobs
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: private



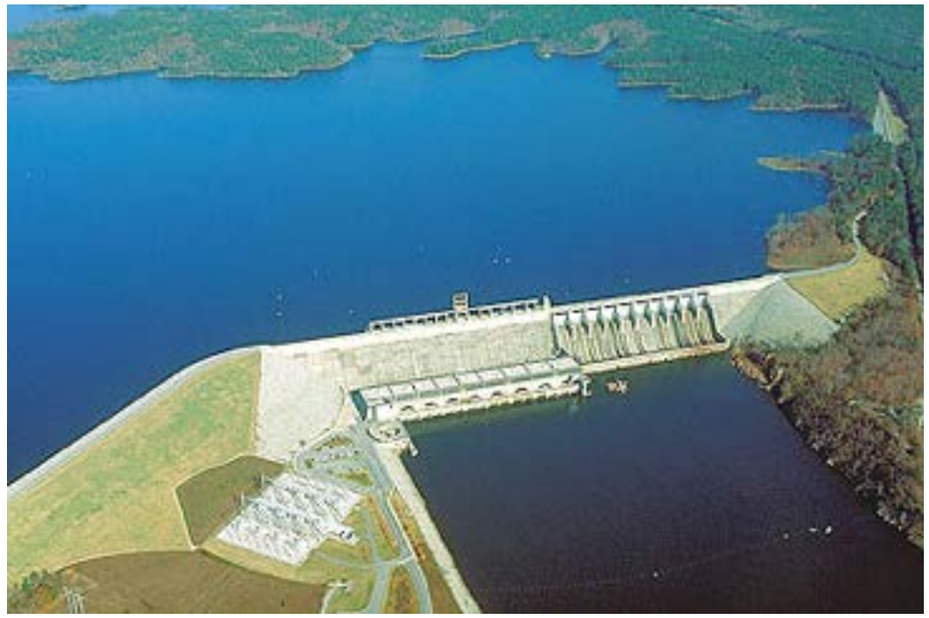
10. Project Clean Lake, Cleveland

1. Description: Seven new water tunnels would provide relief to Cleveland's antiquated system which is overwhelmed by even moderate rainfall and feeds contaminated water into Lake Erie.
2. Authority: Northeast Ohio Regional Sewer District
3. Cost: $3 billion
4. Jobs: 2,150 Direct Jobs
5. Status
    - 5.1. Engineering: in progress
    - 5.2. Permitting: in progress
    - 5.3. Funding: seeking Federal



11. South Carolina Dams Accelerated Repairs

1. Description: In 2015, heavy rains breached 50 dams and caused widespread damage. The Army Corps assessed over 600 dams as either high or significant hazards.
2. Authority: U.S. Army Corps of Engineers
3. Cost: $850 million
4. Jobs: 2,200 Direct Jobs
5. Status
    5.1. Engineering: in progress
    5.2. Permitting: in progress
    5.3. Funding: seeking Federal

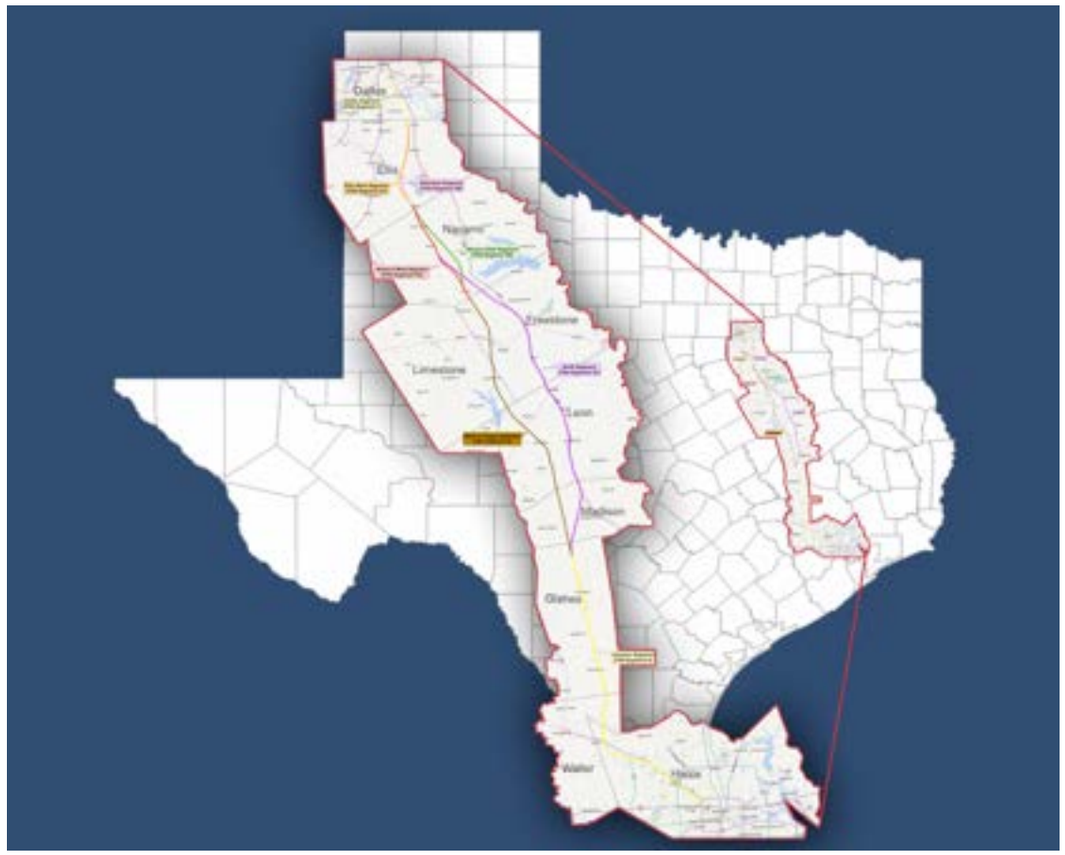


12. Hydroelectric Plants operated by the U.S. Army Corps of Engineers

1. Description: The Corps produces revenue of $5 billion per year from hydro plants they own and operate throughout the country. These power plants are operating at 80% efficiency and the industry average is 99%. Billions of dollars of revenue are being wasted by not maximizing this opportunity. The turbines are 50 years old and replacing them will dramatically increase the production of clean energy desperately needed.
2. Authority: U.S. Army Corps of Engineers
3. Cost: $4 billion
4. Jobs: 550 Direct Jobs
5. Status
    5.1. Engineering: in progress
    5.2. Permitting: in progress
    5.3. Funding: seeking Federal

13. Texas Central Railway

1. **Description**: Nearly 50,000 Texans, sometimes called “super-commuters,” travel back and forth between Houston and Dallas/Fort Worth more than once a week. Many others make the trip very regularly. The approximately 240-mile high-speed rail line will offer a total travel time of less than 90 minutes, with convenient departures every 30 minutes during peak periods each day, and every hour during off-peak periods – with 6 hours reserved each night for system maintenance and inspection.
2. **Authority**: Texas Central Partners, LLC
3. **Cost**: $12 billion
4. **Jobs**: 40,000 Direct Jobs
5. **Status**
    - 5.1. Engineering - in progress
    - 5.2. Permitting - in progress
    - 5.3. Funding - in progress



TEXAS CENTRAL RAILWAY
AMERICA'S BULLET TRAIN

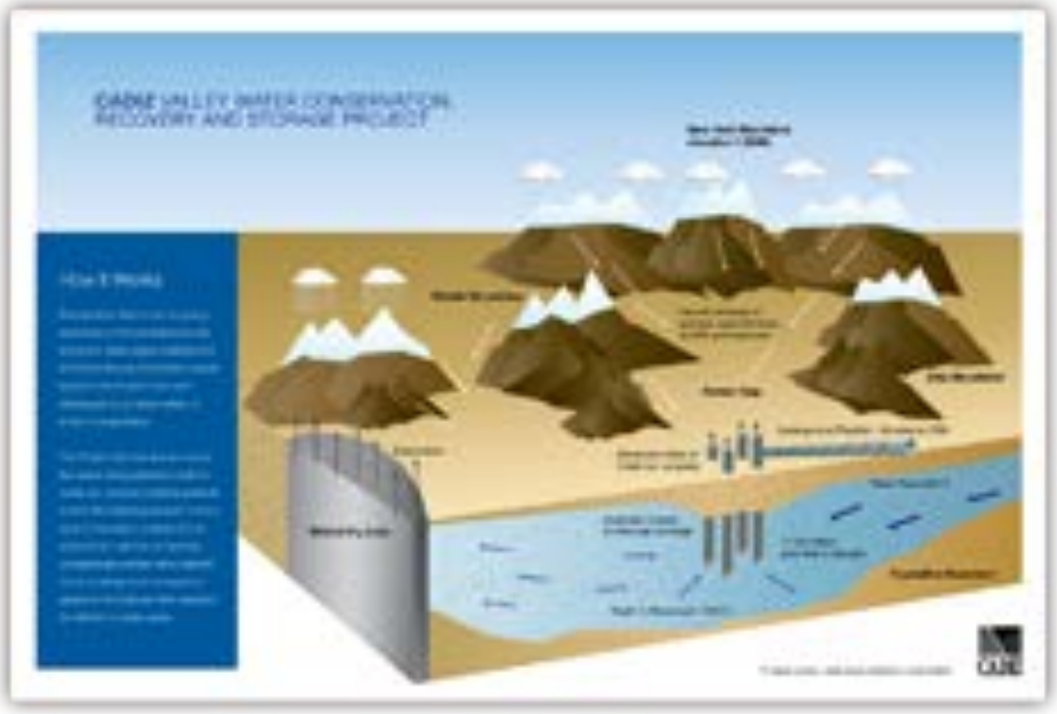
14. Cotton Belt Line Rail Project

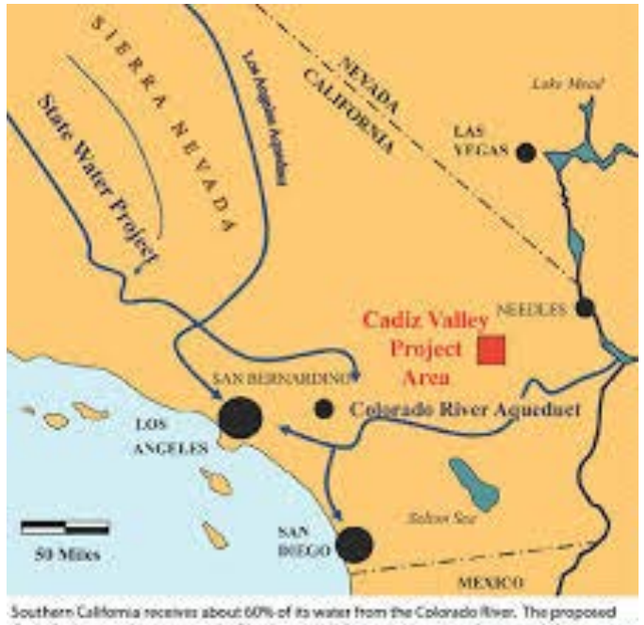
1. **Description**: The Cotton Belt Rail Line is a planned 67.7-mile commuter rail line to provide service from Dallas's northeast suburbs to Southwest Fort Worth with a major terminal at the north end of Dallas/Fort Worth International Airport.
2. **Authority**: Dallas Area Rapid Transit
3. **Cost**: $1.1 billion ($2.8 billion if not single tracked)
4. **Jobs**: 2,000 direct jobs
5. **Status**
    5.1. Engineering - in progress
    5.2. Permitting - complete
    5.3. Funding - seeking federal

15. Cadiz Water Conveyance Project

1. **Description**: The Cadiz Valley Water Conservation, Recovery and Storage Project is designed to capture and conserve billions of gallons of renewable native groundwater flowing beneath Cadiz-controlled property in California's Mojave Desert that is currently being lost to evaporation and salt contamination at nearby dry lakes.
2. **Authority**: Cadiz Inc.
3. **Cost**: $250 Million
4. **Jobs**: 5,900 direct jobs
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 95%
    - 5.3. Funding - private

***Note**: Two additional projects worth $1.4 billion available.*





Southern California receives about 60% of its water from the Colorado River. The proposed Cadiz Project would augment the river's water delivery via the system's current infrastructure.

16. TransWest Express Transmission

1. **Description**: The TransWest Express Transmission Project is a high-voltage, direct current regional electric transmission system proposed by TransWest Express LLC. The TWE Project will reliably deliver cost-effective renewable energy produced in Wyoming to the Desert Southwest region (California, Nevada, Arizona).
2. **Authority**: TransWest Express, LLC (Anschutz)
3. **Cost**: $3 billion
4. **Jobs**: 3,000 direct jobs; indirect 4,000
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 95%
    - 5.3. Funding - private

17. Chokecherry and Sierra Madre Wind Energy/Wyoming

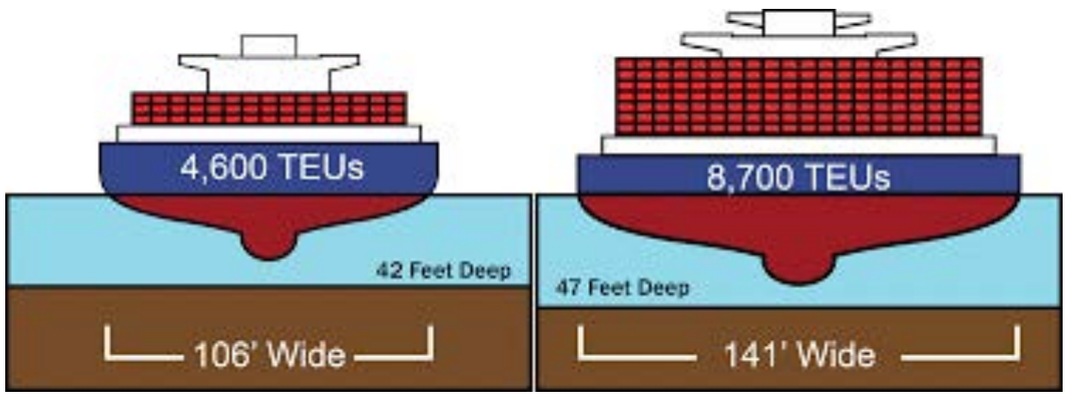
1. **Description**: Power Company of Wyoming LLC's Chokecherry and Sierra Madre Wind Energy Project is an up-to-1,000-turbine wind farm to be located south of Sinclair and Rawlins in Carbon County, Wyoming.
2. **Authority**: Wyoming Power Company (Anschutz)
3. **Cost**: $5 billion
4. **Jobs**: 1,000 direct jobs
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 95%
    - 5.3. Funding - private

18. Second Avenue Subway - Phases 2 & 3

1. **Description**: The Second Avenue Subway will be New York City's first major expansion of the subway system in over 50 years. When fully completed (see phases at right), the line will stretch 8.5 miles along the length of Manhattan's East Side, from 125th Street in Harlem to Hanover Square in Lower Manhattan.
2. **Authority**: New York Metropolitan Transit Authority (MTA)
3. **Cost**: $14.2 billion
4. **Jobs**: 16,000 direct jobs
5. **Status**
    5.1. Engineering - done
    5.2. Permitting - 95%
    5.3. Funding - public/seeking federal

19. Savannah Harbor Expansion Acceleration

1. **Description**: After more than 15 years of study, construction has begun on the Savannah Harbor Expansion Project (SHEP), which will deepen the 18.5-mile outer harbor to 49 feet at mean low water and the Savannah River channel to 47 feet. Note: took 17 years to move through the approval process.
2. **Authority**: Georgia Ports Authority / USACE
3. **Cost**: $706 million
4. **Jobs**: 2,400 direct jobs; 11,000 indirect
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - done
    - 5.3. Funding - public - state & federal



20. Atlantic Coast Pipeline

1. **Description**: The Atlantic Coast Pipeline (ACP) is an interstate natural gas pipeline that will serve multiple public utilities and their urgent energy needs in Virginia and North Carolina.
2. **Authority**: Dominion Energy
3. **Cost**: $4.5 - $5 billion
4. **Jobs**: 10,000 direct job years
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - done
    - 5.3. Funding - private/utility

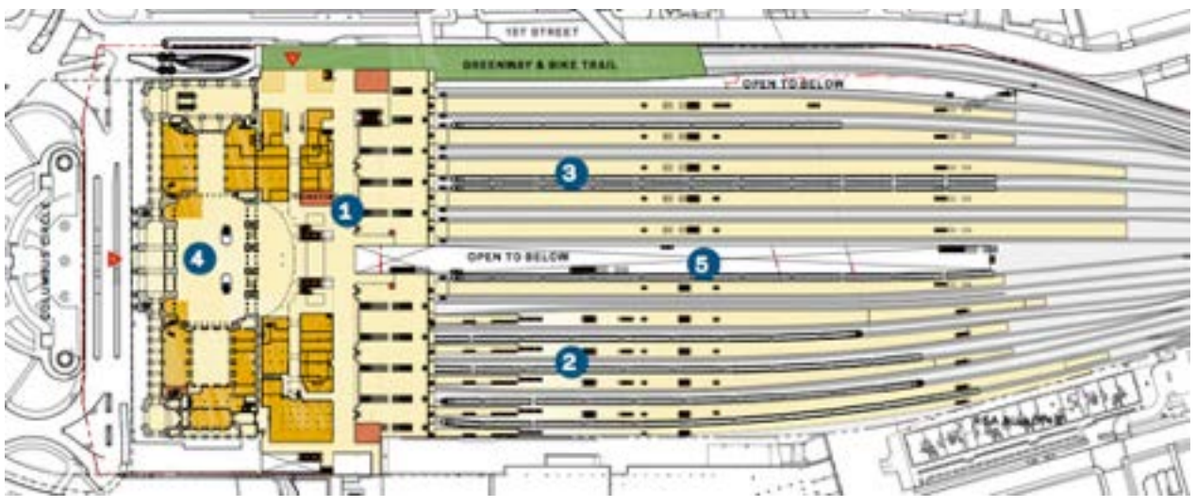
21. Champlain Hudson Power Express

1. **Description**: The Champlain Hudson Power Express project will bring up to 1,000 megawatts (MW) of clean, renewable power to the New York metro area.
2. **Authority**: Transmission Developers, Inc. (Blackstone)
3. **Cost**: $2.2 billion
4. **Jobs**: 1,000 direct job years
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 85%
    - 5.3. Funding - done/private

22. DC Union Station Expansion & Rehab

1. **Description**: Modernization of Union Station including surrounding rail infrastructure.
2. **Authority**: Amtrak
3. **Cost**: $8.7 billion
4. **Jobs**: 16,000 direct job years
5. **Status**
   - 5.1. Engineering - done
   - 5.2. Permitting - 75%
   - 5.3. Funding - public, private

Note: There are multiple multimodal terminals, including Chicago, Los Angeles and New York - this would be a model



23. Maryland Purple Line

1. **Description**: The Purple Line is a 16-mile light rail line that will extend from Bethesda in Montgomery County to New Carrollton in Prince George's County. It will provide a direct connection to three Metrorail lines, as well as MARC, Amtrak, and local bus services.
2. **Authority**: Maryland Transit Administration
3. **Cost**: $5.6 billion
4. **Jobs**: 5,000 direct job years
5. **Status**
    5.1. Engineering - done
    5.2. Permitting - 95%
    5.3. Funding - PPP (large federal share)

24. M-1 Rail, Detroit

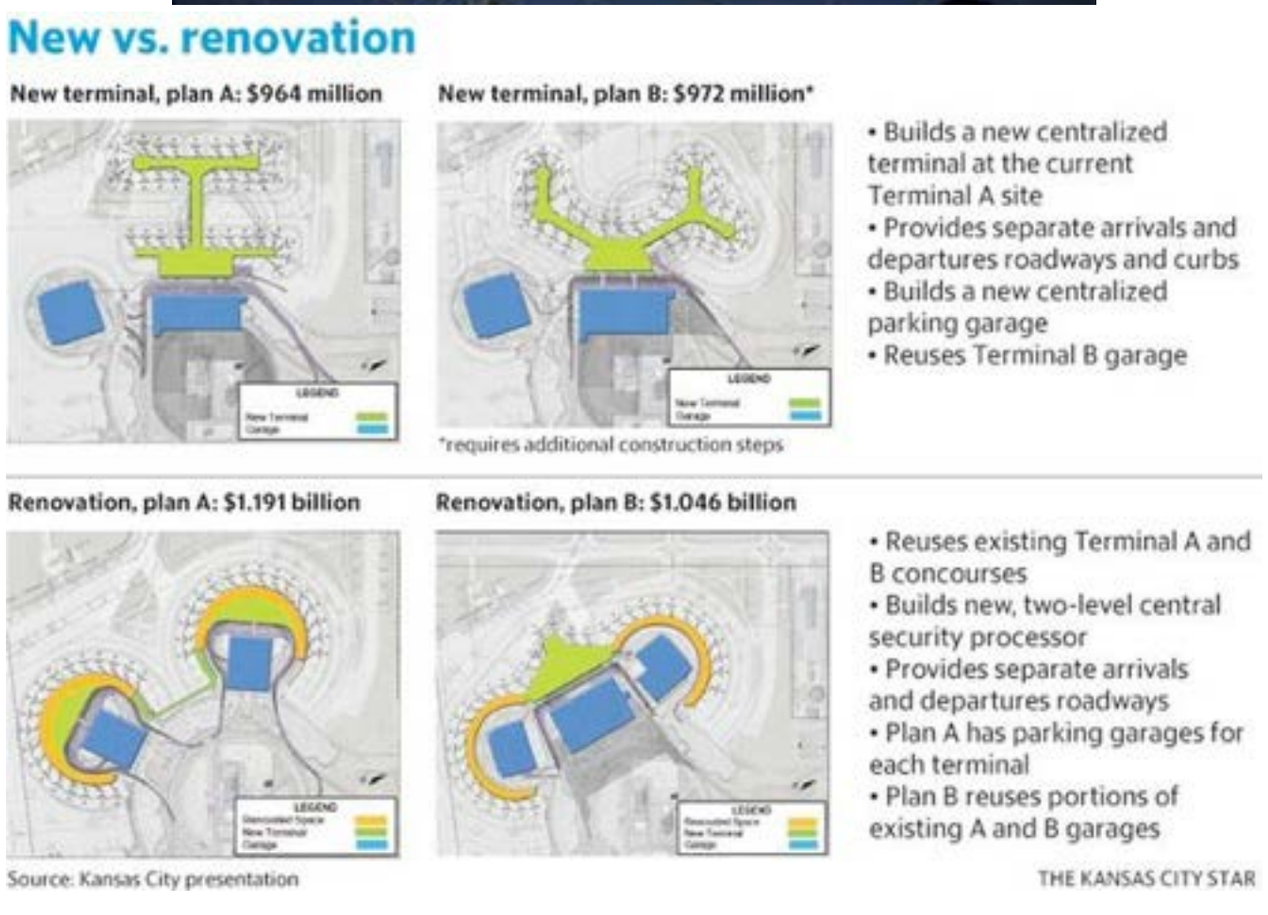
1. **Description**: Detroit's M-1 RAIL is an unprecedented public-private partnership and model for regional collaboration. Notably, it is the first major transit project being led and funded by both private businesses and philanthropic organizations, in partnership with local government, the State of Michigan, and the U.S. Department of Transportation.
2. **Authority**: City of Detroit
3. **Cost**: $528 million
4. **Jobs**: 500 direct job years
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 95%
    - 5.3. Funding - Seeking Federal

25. Gordie Howe International Bridge

1. **Description**: The crossing will connect Interstates 75 and 94 in Michigan with the newly built Herb Gray Parkway connection in Ontario. This will allow faster traffic flow than the current configuration, which connects to city streets on the Canadian side. A Canadian federal Crown corporation, the Windsor-Detroit Bridge Authority, was established in 2012 to handle the procurement process. The project was approved by the US government in April 2013, is currently in procurement, and has been delayed by land acquisition issues.
2. **Authority**: Windsor-Detroit Bridge Authority, Michigan DOT
3. **Cost**: $4.5 billion
4. **Jobs**: 13,000 direct job years; 10,000 indirect jobs Canada)
5. **Status**
    - 5.1. Engineering - done
    - 5.2. Permitting - 95%
    - 5.3. Funding - PPP

26. Kansas City Airport

1. Description: The business case for a new terminal was bolstered after Southwest and the other airlines told the City Council on April 26 that they would finance the nearly $1 billion new terminal, to be built where the mothballed Terminal A is now.
2. Authority: The City of Kansas City
3. Cost: $972 million
4. Jobs: 1,000 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



27. The Peace Bridge

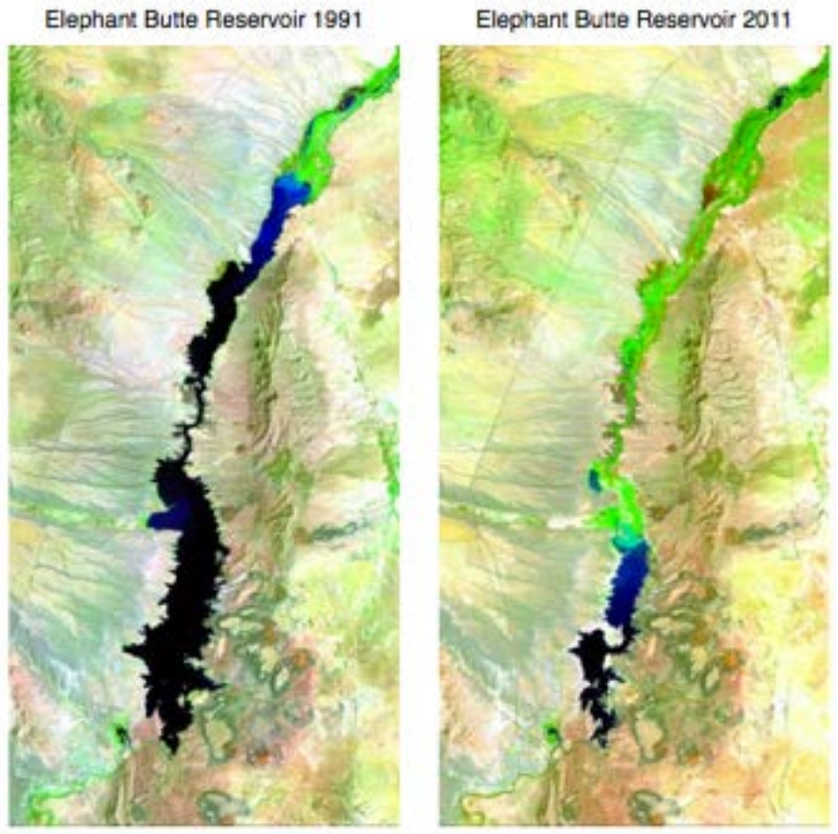
1. Description: An international border crossing, carrying vehicular and pedestrian traffic across the upper Niagara River between Fort Erie, Ontario, Canada, and Buffalo, New York, United States of America. 3 lane toll road bridge constructed in 1927, and measures 3,998 feet (1,219 m) long over 49 spans.
2. Authority: Buffalo and Fort Erie Public Bridge Authority
3. Cost: $700 million
4. Jobs: 700 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

THE PEACE BRIDGE

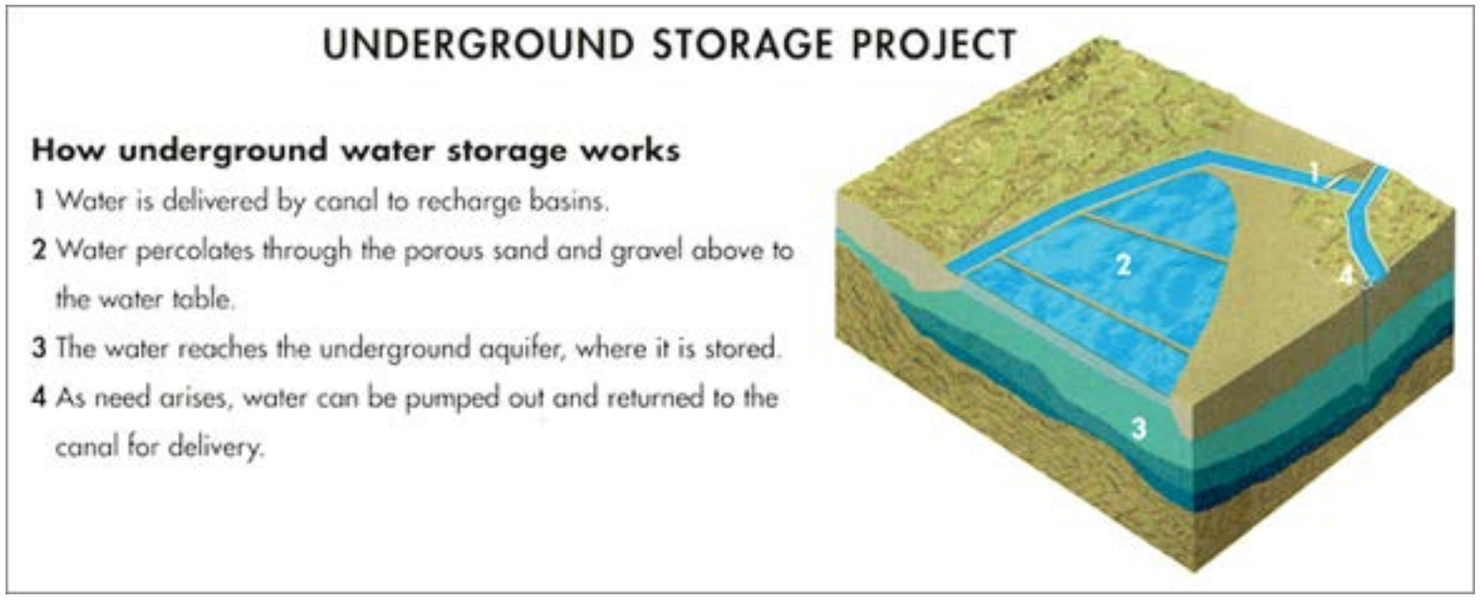
28. MBTA Green Line Extension, Boston

1. Description: The 4.3-mile (6.9 km) extension is intended in order to improve mobility and regional access for residents in the densely populated municipalities of Somerville and Medford, two cities currently underserved by the MBTA relative to their population densities, commercial importance, and proximity to Boston.
2. Authority: MBTA
3. Cost: $3 billion
4. Jobs: 3,000 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

29. Augustin Plains Ranch



1. Description: The demand for water in our state already surpasses its availability, and the situation is becoming even more dire due to extreme drought. That is why the project's supporters and sponsors are committed to developing this much-needed resource on behalf of all New Mexicans. This state-of-the-art, eco-friendly project will be unique, producing its own power for operation through hydropower and solar energy. But more importantly, the project will create a new, sustainable and abundant source of water independent of compacts with other states.
2. Authority: Augustin Plains Ranch, LLC
3. Cost: $600 million
4. Jobs: 600 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



30. I-93 Rebuild, New Hampshire

1. Description: One of the most ambitious projects that the New Hampshire Department of Transportation (NHDOT) has ever undertaken: the widening of a 20 mile segment of I-93 between Exits 1 and 5 from the Massachusetts Stateline to Manchester, NH. The overall goal of this project is simple: to make the I-93 corridor safer and to improve mobility.
2. Authority: NHDOT
3. Cost: $800 million
4. Jobs: 800 Direct Jobs
5. Status
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

REBUILDING
I-93
salem to manchester

31. Lake Pontchartrain Bridge/Causeway

1. Description: The Causeway Spans 24 miles and is the longest bridge over water in the world. The bridge's parallel spans are made of prestressed panels supported by over 9,000 concrete pilings.
2. Authority: The Greater New Orleans Expressway Commission (GNOEC)
3. Cost: $125 million
4. Jobs: 200 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

32. Port Newark Container Terminal Improvements

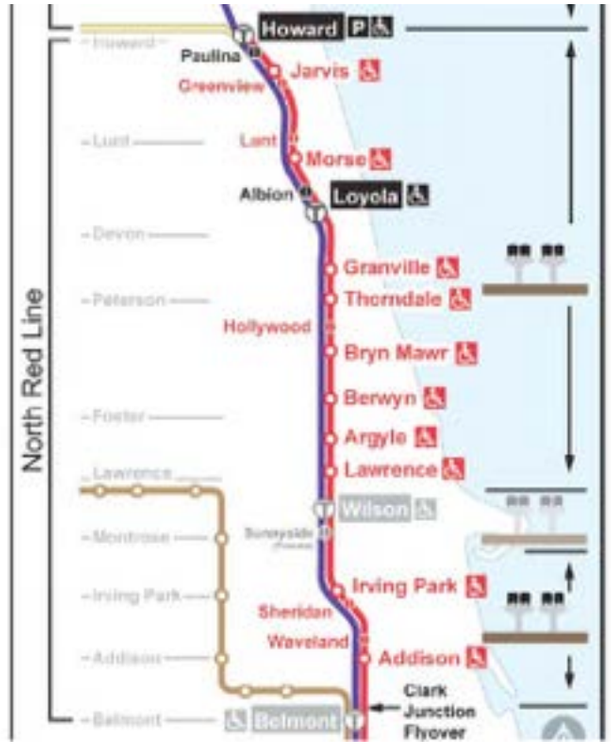
1. Description: As one of the largest infrastructure projects in New Jersey, PNCT will invest $500 million into the expansion before the year 2030. The expansion is expected to double the number of containers moving through the terminal, creating significant economic growth within the region. Further expansion plans include the development of 74 additional acres, a new gate facility, additional berth deepening and upgraded container handling equipment including additional super post-Panamax ship-to-shore cranes.
2. Authority: PNCT, Port Authority of New York/New Jersey
3. Cost: $500 million
4. Jobs: 500 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

33. Howard Street Tunnel

1. Description: Height restrictions within CSX's Howard Street Tunnel currently prevent the shipment of double-stacked intermodal containers (two shipping containers stacked on top of each other) by rail to and from the Port of Baltimore. This puts Baltimore at a competitive disadvantage as all other major East Coast ports have double-stack rail capacity.
2. Authority: CSX Inc., MDOT
3. Cost: $425 million
4. Jobs: 500 Direct Jobs, 3,200 Indirect Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

34. Red and Purple Line Modernization, Chicago

1. Description: This major initiative will completely rebuild the nearly century old North Red Line from Belmont to Howard and the Purple Line from Belmont to Linden in Wilmette. As it is rebuilt, much needed capacity will be added in this growing residential corridor to accommodate current and future riders, and to deliver faster and smoother rides with less crowding and more frequent service.
2. Authority: Chicago Transit Authority
3. Cost: $2.1 billion
4. Jobs: 2,100 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



35. I-395/I-95 Reconstruction

1. Description: The projects are the I-395 Reconstruction Project and I-95 Pavement Reconstruction projects and the Miami-Dade Expressway Authority (MDX) project includes the SR 83611 project.
2. Authority: FDOT
3. Cost: $800 million
4. Jobs: 800 Direct Jobs
5. Status
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

36. Chicago Union Station Redevelopment

1. Description: Union Station is one of the region's key transportation facilities and economic drivers. It is the third-busiest railroad terminal in the United States, serving over 300 trains per weekday carrying about 120,000 arriving and departing passengers – a level of passenger traffic that would rank it among the ten busiest airports in the U.S. Most travelers at Union Station take Metra commuter trains. The Station is also the hub of Amtrak's network of regional trains serving the Midwest as well as most of the nation's overnight trains, which connect to the Atlantic, Gulf, and Pacific coasts.
2. Authority: Amtrak, City of Chicago
3. Cost: $1 billion
4. Jobs: 1,000 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

UNION STATION
MASTER PLAN

37. Upper Mississippi Locks 20-25

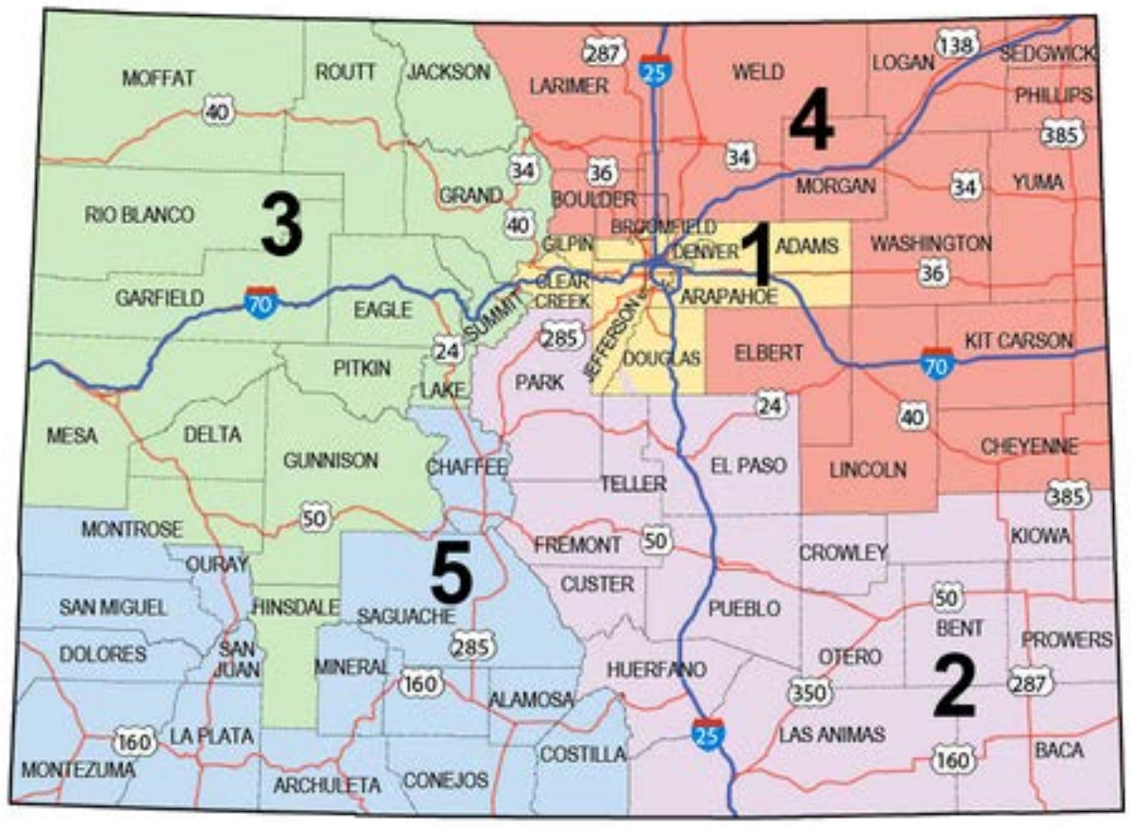
1. Description: The maintenance needs of this aging infrastructure have surpassed annual operations and maintenance funding. This limited funding has adversely affected reliability of the system and has primarily resulted in a fix-as-fail strategy, with repairs sometimes requiring days, weeks or months. Depending on the nature of a failure and extent of repairs, shippers, manufacturers, consumers and commodity investors can experience major financial consequences. Additionally, today's 1,200'-long tows must split and lock through in two operations within the Project's 600' chambers. This procedure doubles and triples lockage times, increases costs and wear to lock machinery, and exposes deckhands to higher accident rates.
2. Authority: USACE
3. Cost: $1.8 billion
4. Jobs: 1,800 Direct Jobs
5. Status
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

38. Illinois River Locks - Lagrange and Peoria

1. **Description**: A Rehabilitation Evaluation Report was approved in August 2005. A preliminary schedule of work has been developed with construction spanning over a three year period. Three lock closures will be required with two of the three closures involving lock dewatering.
2. **Authority**: USACE
3. **Cost**: $640 million
4. **Jobs**: 650 Direct Jobs
5. **Status**
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

39. Colorado I-70 Mountain Corridor

1. **Description**: Part of CDOT's comprehensive plan to improve travel in the I-70 Mountain Corridor, this project will upgrade 13 miles of eastbound I-70 within CDOT's existing right-of-way. The upgrades will create the I-70 Mountain Express Lane—a wide shoulder that, only during peak travel periods, will operate as a third travel lane.
2. **Authority**: CDOT
3. **Cost**: $1 billion
4. **Jobs**: 1,000 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



Central 70

40. Colorado I-25 Improvements

1. **Description**: The Colorado Department of Transportation has identified $9 billion in unfunded priorities, including widening I-25 between Monument and Castle Rock, measured against a $1.41 billion budget next year.
2. **Authority**: CDOT
3. **Cost**: $1 billion
4. **Jobs**: 1,000 Direct Jobs
5. **Status**
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

41. IHNC Lock Replacement, New Orleans

1. **Description**: The current lock, built in 1921 but not opened until 1923, is too small to accommodate modern day vessels. The planned replacement lock could provide a nearly three-fold increase in lock chamber capacity easing transport through this high-traffic waterway.
2. **Authority**: USACE
3. **Cost**: $893 million
4. **Jobs**: 900 Direct Jobs
5. **Status**
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

42. Chickamauga Lock

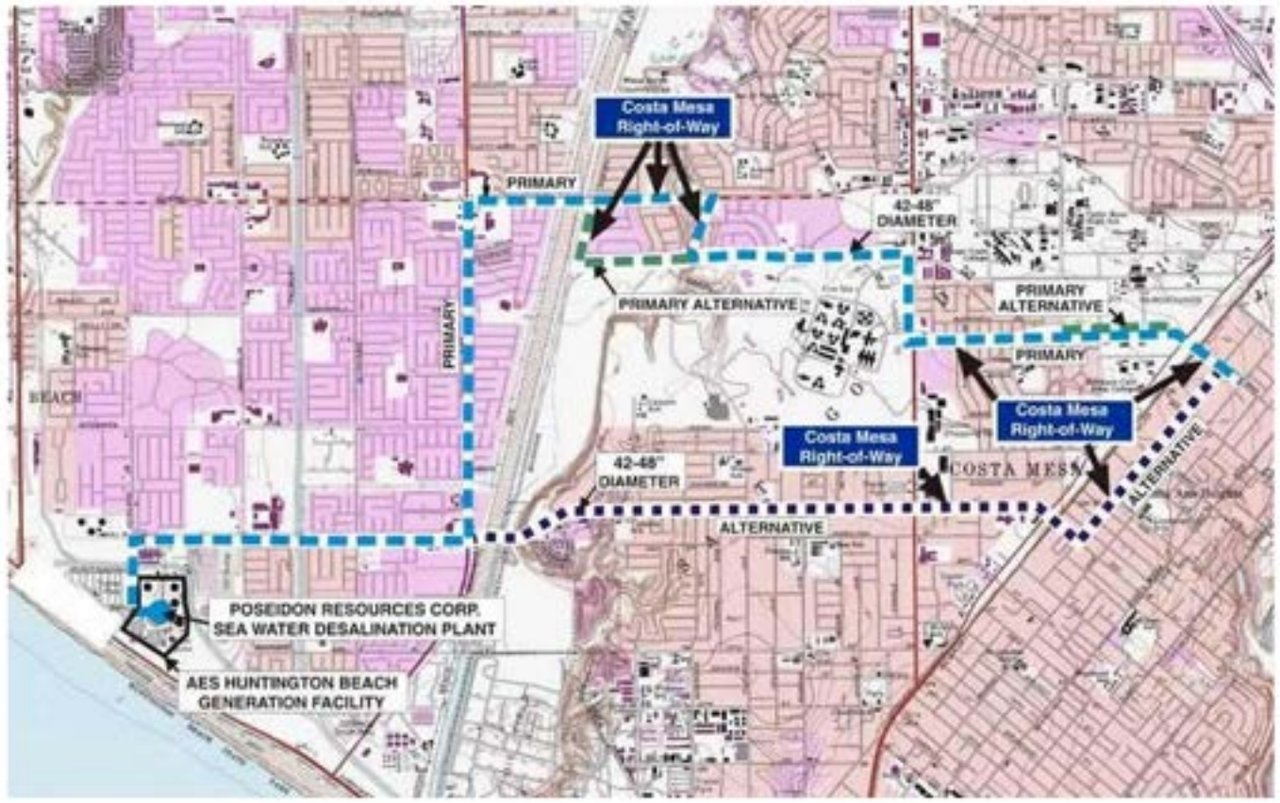
1. **Description**: Owned by the Tennessee Valley Authority and operated by the U.S. Army Corps of Engineers. Upstream of Chickamauga Lock are 318 miles of navigable waterway used to transport materials to and from industries, TVA facilities and the Department of Energy facilities at Oak Ridge. A concrete aggregate problem causes structural concerns at the existing lock, and will result in closure of the lock at some point. Also, the existing 60-foot by 360-foot lock is a non-standard size that is not suited to the barges used by the transportation industry today. The new 110-foot by 600-foot Chickamauga Lock, designed and constructed by the U.S. Army Corps of Engineers Nashville District, will replace the existing lock, improve locking efficiency, and solve the structural issues caused by the concrete aggregate at Chickamauga Lock.
2. **Authority**: USACE
3. **Cost**: $383 million
4. **Jobs**: 400 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

43. Soo Locks Reconstruction

1. **Description**: A recent Department of Homeland Security report predicted an unscheduled six-month outage of the Poe Lock would cripple the U.S. economy, cost 11 million jobs and shut down almost all North American appliance, automobile, construction, farm and mining equipment, and railcar production within weeks.A six-month outage could increase unemployment by 18 to 22 percent in the Great Lakes region, according to the report. On the flip side, building a new lock would generate 15,000 jobs in the eastern U.P.
2. **Authority**: USACE
3. **Cost**: $580 million
4. **Jobs**: 600 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

44. Huntington Beach Desalination Plant

1. **Description**: A cost-effective, environmentally sensitive solution to provide a safe and reliable water supply to Orange County residents and has the potential to bring significant economic benefits for the city of Huntington Beach and the region
2. **Authority**: Poseidon Water
3. **Cost**: $350 million
4. **Jobs**: 400 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



SEAWATER DESALINATION
HUNTINGTON BEACH FACILITY

45. Upper Ohio Navigation Improvements

1. **Description**: The Upper Ohio Navigation Study recommends for Congressional authorization the National Economic Development (NED) plan for improving the upper Ohio River navigation system, specifically the Emsworth, Dashields and Montgomery Locks and Dams. Emsworth, Dashields and Montgomery, each constructed prior to 1936, are the first three locks and dams on the Ohio River just below Pittsburgh's Point. These facilities have the oldest and smallest lock chambers in the entire Ohio River Navigation System.
2. **Authority**: USACE
3. **Cost**: $1.7 billion
4. **Jobs**: 1,700 Direct Jobs
5. **Status**
    5.1. Engineering: In progress
    5.2. Permitting: In progress
    5.3. Funding: In progress

46. Monongahela River Locks-and-Dams

1. **Description**: Charleroi Locks and Dam consists of two lock chambers and a gated dam. This type of dam is constructed to permit increased control over the water level in the navigation pool upriver of the dam. Machinery mounted on tall concrete piers moves large chains which lift gates that are hinged into the body of the piers. As the gates are raised or lowered to control the amount of water flowing under them, the upstream pool is maintained at a relatively constant level for an authorized depth of at least 9 feet throughout its length. The dam, however, cannot be operated to control flood flows. An incidental benefit derived from the pool formed by the dam is the availability of a source of municipal and industrial water.
2. **Authority**: USACE
3. **Cost**: $900 million
4. **Jobs**: 900 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

47. Seattle Airport Expansion

1. **Description**: Sea-Tac's Sustainable Airport Master Plan is a long-term blueprint for airport development to meet the needs of the traveling public, while reducing environmental and social impacts. The plan includes airfield development within the current three-runway configuration, terminal development, roadway improvements, and facility modernization and expansion possibilities. Completion of the plan will make Sea-Tac the first large hub U.S. airport to fully incorporate sustainability as a key planning component.
2. **Authority**: Port of Seattle, City of Seattle
3. **Cost**: $2 billion
4. **Jobs**: 2,000 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

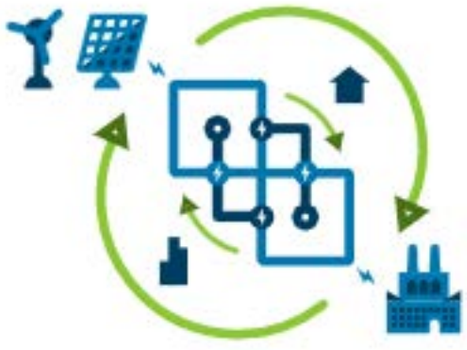
Sustainable
Airport Master Plan
Seattle-Tacoma International Airport

48. Arlington Memorial Bridge

1. **Description**: The condition of Arlington Memorial Bridge is degrading quickly. The Memorial Bridge has reached the end of its design life and requires extensive rehabilitation, to include full replacement of its center span. Corrective measures are needed now to keep the structure open to the public until the rehabilitation can be performed.
2. **Authority**: NPS
3. **Cost**: $250 million
4. **Jobs**: 300 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

49. Energy Storage and Grid Modernization

1. **Description**: Fearing blackouts, the California Public Utilities Commission has mandated a series of mitigation measures, including an expedited procurement for local energy storage resources. The more renewable energy that can be stored during the day, the less need to fire up fossil fuel generators as electricity demand increases in the evening.
2. **Authority**: National
3. **Cost**: Variable
4. **Jobs**: Variable
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress



50. St. Louis Airport

1. **Description**: The St. Louis Airport Commission approved a major development project at Lambert-St. Louis International Airport that is geared to be a catalyst for international cargo activity and jobs by expanding Lambert's aviation facilities and capabilities on the north side of the airfield. The project will generate more than $13.5 million in lease revenue alone, over the initial term of the agreement.
2. **Authority**: St. Louis Airport Commission
3. **Cost**: $1.8 billion
4. **Jobs**: 1,800 Direct Jobs
5. **Status**
    - 5.1. Engineering: In progress
    - 5.2. Permitting: In progress
    - 5.3. Funding: In progress

LAMBERT-ST. LOUIS
INTERNATIONAL AIRPORT