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Bipartisan Infrastructure Bill Update

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Topline

- $944 billion in total spending over five (5) years
  - $550 billion in new spending over five (5) years (see attached visualization from *Politico*)
    - Appropriates $445.9 billion in emergency funds over five (5) years
    - New spending is classified as spending above the surface transportation reauthorization baseline
- The Joint Committee on Taxation's (JCT) initial estimate is $51 billion in new revenue over five (5) years
- $198 billion in new spending for transportation infrastructure:
  - $110 billion for roads, bridges, and major transportation projects
  - $11 billion for road/highway safety
  - $39.2 billion for public transit
  - $66 billion for rail (passenger and freight)
    - $19.27 billion for Amtrak ($12.7 billion for National Network Corridor and $6.57 billion for Northeast Corridor)
  - $5 billion for Electric Vehicle (EV) School bus and ferry infrastructure
  - $7.5 billion for low carbon/zero-emission buses/transit
  - $1 billion for reconnecting communities (mainly targeted at disadvantaged communities broken up by previously constructed highways, etc.)
  - $25 billion for airport infrastructure (more detail forthcoming)
  - $17.3 billion for ports & inland waterways (more detail forthcoming)
  - $20 billion for an infrastructure financing bank
- $266 billion in new spending for other infrastructure
  - $55 billion for water infrastructure
  - $65 billion for broadband
  - $21 billion for environmental remediation
  - $73 billion for power/grid infrastructure
  - $5 billion for Western Water Storage
  - $46 billion for "resilience" (mainly costal restoration, etc.)
  - $11.3 billion for the Abandoned Mine Land Reclamation Fund
- Policy Changes
  - Codifies the Trump Administration's "One Federal Decision" policy that requires agencies to coordinate reviews and authorization decisions for major infrastructure projects
  - Goal of two (2) years for environmental reviews with certain enforcement mechanisms

Pay-Fors

- Rescind $41.8 billion in unobligated COVID-relief funds
- Extend the mandatory sequester by one year (not scored yet)
- $49 billion from delaying Medicare Part D Rx rule to 2026
- $53 billion from states returning unused federal Unemployment Insurance (UI) supplement, but just IDs the money, no rescission authority
- Spectrum auction authority extended (not scored yet)
- $56 billion from economic growth and subsequent revenue increases
- $28 billion by extending reporting requirements to cryptocurrency brokers, etc.
- $21 billion from extending fees on government-sponsored enterprises (GSEs)
- $13 billion from reinstating certain Superfund fees
- $6 billion from extending customs user fees
- $6.1 billion from Strategic Petroleum Reserve sales
- $3 billion in savings by reducing Medicare spending on discarded medicine – requires drugmakers to refund Medicare for medicine that's discarded by doctors due to over-packaging
- $2.9 billion from extending available interest rate smoothing options for defined benefit plans

Issues of Contention

- Davis-Bacon provisions.
- Cryptocurrency reporting provisions, which place a fine/fee on crypto companies not accurately reporting. Many believe this to be the "foot-in-the-door" moment that will lead to broader regulation of cryptocurrencies and many Senators are trying to prevent this from happening to a nascent asset class.

- Facing headwinds from Republican Study Committee, House Transportation & Infrastructure Committee (T&I Committee) Democrats, House Progressive Caucus, etc.
    - House Progressives feel emboldened by their win in getting the Biden Administration to issue an eviction moratorium executive order (not withstanding its ability to be upheld on likely legal challenges).
- House T&I Committee Chairman, Rep. DeFazio (D-OR), is calling for a conference committee because he does not like the agreement and believes his House-passed surface transportation bill should be included as part of the Senate negotiations.

Other Items of Note

- Authorizes grant recipients to implement local, geographical, or economic hiring preference for construction works, but requires that such preference does not "unduly limit competition"
- $1 billion for the Appalachian Regional Commission (this is Senator Manchin's wife's pet project)
- Requires 10 percent of all funds to flow through small businesses owned by socially and economically disadvantaged individuals (Department of Transportation (DOT) can waive requirement)
- Requires housing and the connection between busing and employment to be part of the metropolitan planning process
- Creates an Advance Research Projects Agency - Infrastructure (ARPA-I)
    - Authorizes such funds as are necessary (up to Approps Committee)
- Creates a Chief Travel and Tourism Officer in DOT

Notable Sections

- Section 11401: EV Charging Infrastructure Grants
    - For publicly available charging stations
    - Public-Private Partnerships (80/20 cost share; up to 80 percent of federal share)
    - Maximum amount for each grant: $15 million
- Section 13001: Establish a program to test the feasibility of a road usage fee system (user-based alternative revenue mechanisms) to maintain the solvency of the Highway Trust Fund
    - DOT Secretary to provide grants to carry out pilot projects
    - No later than three (3) years after enactment of the legislation DOT must issue a report to Congress summarizing the pilot projects and provide recommendations
    - $15 million authorized to carry out pilot projects
- Sec. 13002: Per-Mile User Fee Pilot
    - Government to seek out voluntary participants
    - Study will utilize multiple ways to track vehicle use (i.e., app, in-vehicle device, etc.)
    - $10 million authorized to carry out the pilot
- Sec. 13009: Transportation Resilience and Adaptation Centers of Excellence
    - DOT Secretary shall designate 10 regional Centers of Excellence for Resilience and Adaptation, and one (1) national center of the same name
    - Eligible entities to serve as the centers include institutions of higher education, and nonprofit consortiums led by an institution of higher education
    - Secretary shall designate centers in each of the 10 federal regions comprised of the Standard Federal Regions established by Office of Management and Budget (OMB) in the document entitled "Stand Federal Regions" dated April 1974
    - Each center would get $5 million per year for FY22-FY31
        - Federal cost share is 50 percent
- Sections 40301-40308: Carbon Capture Utilization and Storage (CCUS)
    - Provides for the funding and authorization of use of Class VI onshore wells for the injection and geological storage of carbon dioxide (CO_2)
    - Provides for funding and authorization for projects injecting and storing CO_2 in offshore sub-seabed formations
    - Authorizes $3.5 billion for FY22-FY26
- Section 40311: Hydrogen Research & Development (R&D)
    - A lot of attention been paid to hydrogen as it is seen by many in the energy sector as the future for reducing carbon emissions while still providing the energy the citizens and the economy need
- Section 40342: Clean Energy Demonstration Projects on Current and Former Mine Sites
    - Authorizes up to five (5) projects with at least two (2) being solar projects
    - Eligible projects:
        - Solar
        - Microgrids
        - Geothermal
        - Direct Air Capture
        - Fossil Fuel Electric Generation w/ CCUS
        - Energy Storage
        - Advanced Nuclear
    - Authorizes up to $500 million in appropriations

- Section 40434: Study on the impact of job losses and consumer energy prices due to the revocation of the Keystone XL pipeline permit
- Section 40435: Study on the "cradle-to-grave" environmental impact of EVs
- Section 40601: Orphaned Well Site Plugging, Remediation, and Restoration
    - Authorizes approximately $4.5 billion in total for the plugging and abandonment of orphaned oil and gas well on federal, state, and private lands
    - Key issue for environmentalists as they see orphaned wells being a huge contributor of methane gas leakage
    - The U.S. has 3 million orphaned oil and gas wells with a bulk of them in PA, TX, and other western states

CLEAN HYDROGEN RESEARCH AND DEVELOPMENT (R&D) PROGRAM:

Program Goals:

- Advance R&D to demonstrate and commercialize the use of clean hydrogen in the transportation, utility, industrial, commercial, and residential sectors.
- Demonstrate a standard of clean hydrogen production in the transportation, utility, industrial, commercial, and residential sectors by 2040.

Related Activities:

Secretary of Energy in partnership with the private sector will advance and support:

- A series of technology cost goals oriented toward achieving the standard of clean hydrogen production.
- Production of clean hydrogen from diverse energy sources, including:
    - fossil fuels with CCUS
    - hydrogen-carrier fuels, including ethanol and methanol
    - renewable energy resources, including biomass
    - nuclear energy
    - any other methods the Secretary determines appropriate
- Use of clean hydrogen for commercial, industrial, and residential electric power generation;
- Use of clean hydrogen in industrial applications, including steelmaking, cement, chemical feedstocks, and process heat;
- Use of clean hydrogen as a fuel source for both residential and commercial comfort heating and hot water requirements;
- Safe and efficient delivery of hydrogen or hydrogen-carrier fuels, including:
    - transmission by pipelines, including:
        - retrofitting the existing natural gas transportation infrastructure system to enable a transition to transport and deliver increasing levels of clean hydrogen, clean hydrogen blends, or clean hydrogen carriers
        - tanks and other distribution methods
        - convenient and economic refueling of vehicles, locomotives, maritime vessels, or planes
            - at central refueling stations
            - through distributed onsite generation
- Advanced vehicle, locomotive, maritime vessel, or plane technologies, including:
    - engine and emission control systems
    - energy storage, electric propulsion, and hybrid systems
    - automotive, locomotive, maritime vessel, or plane materials
    - other advanced vehicle, locomotive, maritime vessel, or plane technologies
- Storage of hydrogen or hydrogen-carrier fuels, including the development of materials for safe and economic storage in gaseous, liquid, or solid form;
- Development of safe, durable, affordable, and efficient fuel cells, including fuel-flexible fuel cell power systems, improved manufacturing processes, high-temperature membranes, cost-effective fuel processing for natural gas, fuel cell stack and system reliability, low-temperature operation, and cold start capability;
- Ability of domestic clean hydrogen equipment manufacturers to manufacture commercially available competitive technologies in the United States;
- Use of clean hydrogen in the transportation sector, including in light, medium, and heavy-duty vehicles, rail transport, aviation, and maritime applications; and
- Coordination with relevant agencies, the development of appropriate uniform codes and standards for the safe and consistent deployment and commercialization of clean hydrogen production, processing, delivery, and end-use technologies.

Targets:

- Not later than 180 days after, the Secretary shall establish targets for the program to address near-term (up to two years), mid-term (up to seven years), and long-term (up to 15 years) challenges to the advancement of clean hydrogen systems and technologies.

REGIONAL CLEAN HYDROGEN HUBS:

- Secretary of Energy shall establish a program for four (4) regional clean hydrogen hubs that:
  - Demonstrably aid the achievement of the clean hydrogen production standard;
  - Demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen; and
  - Can be developed into a national clean hydrogen network to facilitate a clean hydrogen economy.
- Selection of Hubs:
  - Not later than 180 days after enactment the Secretary shall solicit proposals for regional clean hydrogen hubs;
  - Not later than one (1) year after the deadline for the submission of proposals the Secretary shall select at least four (4) regional clean hydrogen hubs;
  - Criteria:
    - Feedstock Diversity
      - At least one (1) regional clean hydrogen hub shall demonstrate the production of clean hydrogen from fossil fuels.
      - At least one (1) regional clean hydrogen hub shall demonstrate the production of clean hydrogen from renewable energy.
      - At least one (1) regional clean hydrogen hub shall demonstrate the production of clean hydrogen from nuclear energy.
    - End-Use Diversity
      - At least one (1) regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the electric power generation sector.
      - At least one (1) regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the industrial sector.
      - At least one (1) regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the residential and commercial heating sector.
      - At least one (1) regional clean hydrogen hub shall demonstrate the end-use of clean hydrogen in the transportation sector.
    - Geographic Diversity
      - Each regional clean hydrogen hub shall be located in a different region of the United States and shall use energy resources that are abundant in that region.
        - At least two (2) regional clean hydrogen hubs shall be located in the regions of the United States with the greatest natural gas resources.
    - Employment
      - The Secretary shall give priority to regional clean hydrogen hubs that are likely to create opportunities for skilled training and long-term employment to the greatest number of residents of the region.
- Funding
  - Appropriation Authorization
    - $8 billion from FY22-FY26

CLEAN HYDROGEN ELECTROLYSIS PROGRAM:

Not later than 90 days after enactment the Secretary of Energy shall establish a research, development, demonstration, commercialization, and deployment program for purposes of commercialization to improve the efficiency, increase the durability, and reduce the cost of producing clean hydrogen using electrolyzers.

- Goal
  - To reduce the cost of hydrogen produced using electrolyzers to less than $2 per kilogram of hydrogen by 2026.
- Demonstration Projects
  - The Secretary shall fund demonstration projects to demonstrate technologies that produce clean hydrogen using electrolyzers.
  - To validate information on the cost, efficiency, durability, and feasibility of commercial deployment of the technologies described in paragraph.
- Focus
  - The program shall focus on research relating to, and the development, demonstration, and deployment of low-temperature electrolyzers, including:
    - Alkaline electrolyzers, membrane-based electrolyzers, and other advanced electrolyzers, capable of converting intermittent sources of electric power to clean hydrogen with enhanced efficiency and durability;
    - High-temperature electrolyzers that combine electricity and heat to improve the efficiency of clean hydrogen production;
    - Advanced reversible fuel cells that combine the functionality of an electrolyzer and a fuel cell;
    - New highly active, selective, and durable electrolyzer catalysts and electro-catalysts that:
      - greatly reduce or eliminate the need for platinum group metals; and
      - enable electrolysis of complex mixtures with impurities, including seawater;

    - Modular electrolyzers for distributed energy systems and the bulk-power system;
    - Low-cost membranes or electrolytes and separation materials that are durable in the presence of impurities or seawater;
    - Improved component design and material integration, including with respect to electrodes, porous transport layers and bipolar plates, and balance-of-system components, to allow for scale-up and domestic manufacturing of electrolyzers at a high volume;
    - Clean hydrogen storage technologies;
    - Technologies that integrate hydrogen production with:
        - clean hydrogen compression and drying technologies;
        - clean hydrogen storage; and
        - transportation or stationary systems;
    - Integrated systems that combine hydrogen production with renewable power or nuclear power generation technologies, including hybrid systems with hydrogen storage.
- Grants, Contracts, Co-Op Agreements
    - The Secretary shall award grants, on a competitive basis, to eligible entities for projects that the Secretary determines would provide the greatest progress toward achieving the goal of the program.
    - The Secretary may enter into contracts and cooperative agreements with eligible entities and Federal agencies for projects that the Secretary determines would further the purpose of the program.
- Funding
    - Appropriation Authorization
        - $1 billion for FY22-FY26

CLEAN HYDROGEN STANDARD:

- Hydrogen produced with a carbon intensity equal to or less than 2kg of carbon dioxide-equivalent produced at the site of production per kg of hydrogen produced, and take into consideration technological and economic feasibility.
- Can be adjusted by Department of Energy (DOE) in consultation with the Environmental Protection Agency (EPA) after five (5) years of enactment.

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POLITICOPRO DATAPOINT ON TRANSPORTATION

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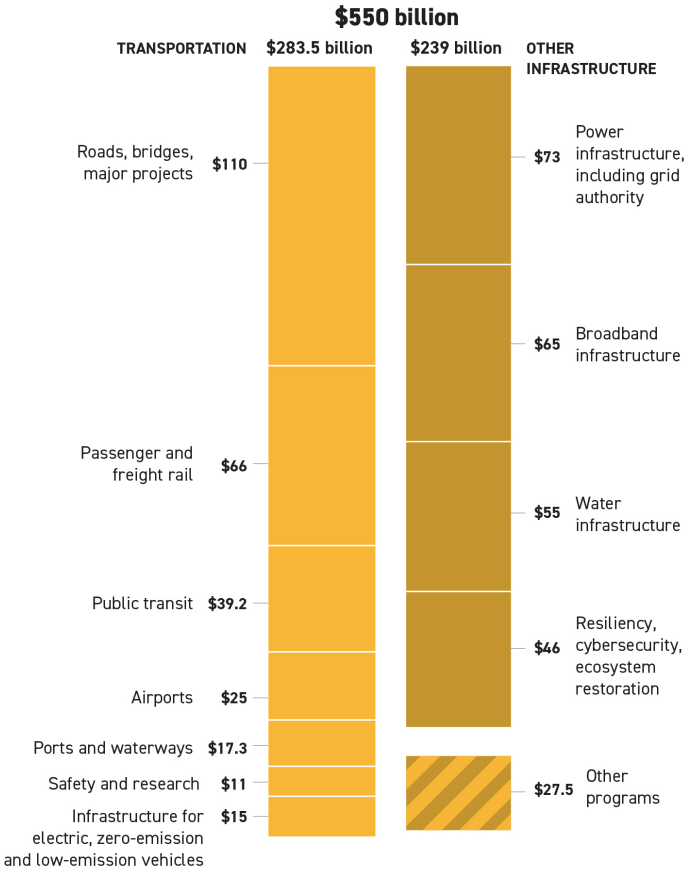
Breaking down the Senate infrastructure agreement's $550B in new spending

A bipartisan infrastructure proposal moved forward in the Senate, as 17 Republican senators voted to break a filibuster blocking the bill. On top of baseline spending, the bill would add $550 billion over five years to fund improvements in the nation's transportation, water, electric power and digital infrastructure. Passage of the bill isn't a sure thing yet: Republicans will want to amend the bill, with an eye toward the financing gap. After that, passage will require another 60 votes to close debate.

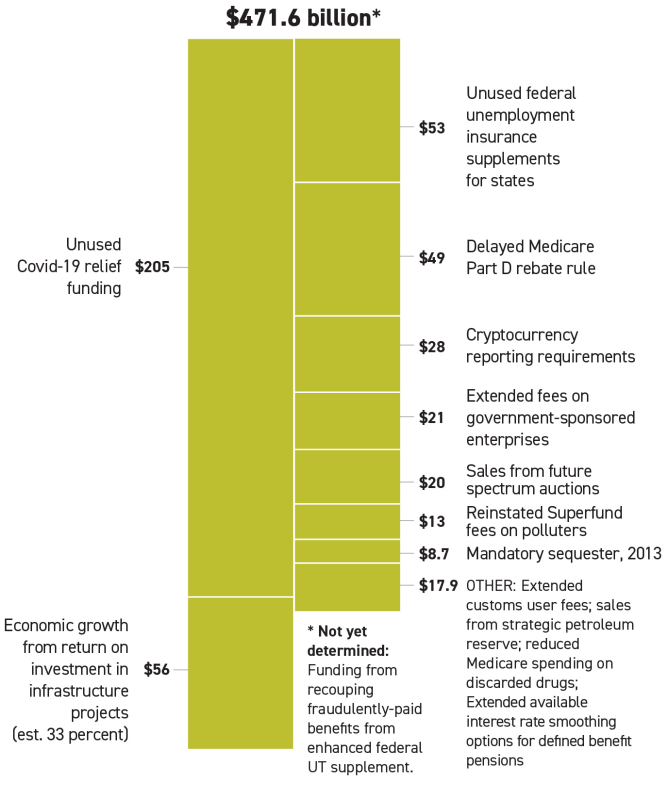
The plan

SPENDING, IN BILLIONS OF DOLLARS



How they want to pay for it

REVENUE SOURCES, IN BILLIONS OF DOLLARS



Sources: The White House, POLITICO report by Marianne LeVine and Burgess Everett

By Patterson Clark, POLITICO Pro DataPoint