Smart Infrastructures

Bingham Labs –A Universal Holographic Mind

This is an Illustration about funding and developing Electrolysis and AI prototype applications for 6 New Infrastructures that can all be funded thru a Public Development Corporation with a Mission to stimulate new industry.

A National Test Study Model is proposed over 5 years for $10 Billion in Revenue Bonds
($5 Bil Skyways + $1 Bil Water+ $1 Bil Smart Grid+ $1 Bil Universal Mind + $1 Bil Carbon Products

This slideshow is about the $1 Billion allocated for a Universal Holographic Mind Backbone

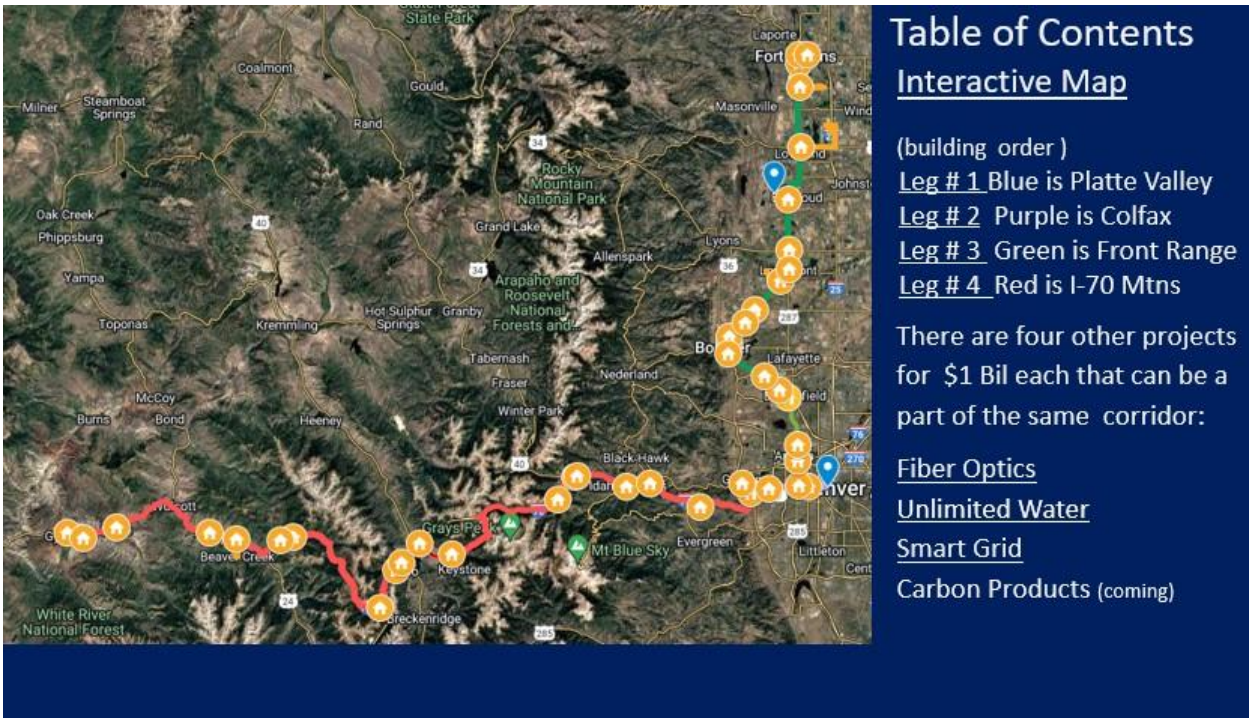
Its break-even share of the $10 Bil at 3% interest + 3.3 % for Amortization is 1/10 or $1 Billion costing $63,000,000 p/y.

It's Subscription revenue for 50,000 business users is $100 p/m or $60 Mil p/y. This pays for interest, amortization, operating costs, Data Center Costs, media cost. Profits come from pay per use that result with surpluses.

Ai Media Factories follow Typical Funding plan

$100,000 seed grant to start up marketing for $3 Mil Grant
$3 Million expansion grant for organizing prototypes and Beta Testing demonstrations
$5 Million investment for a 50% share of a Subsidiary Public Benefit Corporation
$100 Million Revenue Bonds by a banking Consortium for a 14 mile "Proof-of-Concept" backbone
$1 Billion Revenue Bonds for a 210-mile Colorado Corridor shared by 25 towns
$1 Billion in Revenue Bonds to start the World Stages Initiative and Research Center

Interactive map of 210-mile proposed corridor



These are ideas for public discussion and not plans. This is the second smart infrastructure for development by Bingham Labs after the first one which is a Personal Agents on a Tablet programed with software that using selected Ai as an agent. It will follow the same template for funding and development as the first project did. But this one differs in many ways: it is mostly new technology that have never been used before, compared to the existing internet and cell phone technology of the Smart grid. It will take longer to develop, it needs a research center somewhere to coordinate all the new activity, it will be bigger, faster, more expensive and probably much more profitable than the Smart grid. This second infrastructure will focus on R&D for Ai Holographic factories and linking them with advanced Fiber Optics. This project will have the benefit of building the first one, benefits from an established team, a downtown business office, a Special District Template, relationships with the city of Denver and the State of Colorado, building a grants application team and familiarity with Tech players.

The goal will be to build a transformative Smart Infrastructure pilot network that uses machine learning to grow its knowledge base, store it in small modular data factories and transmit this knowledge base to a central location to be shared by the citizens of Colorado. This is an economic development project to stimulate growth.

Bingham Labs has already applied for an evaluation $3 million grant from the Congressional Transit and Infrastructure Subcommittee and for a DDA $3 million, Grant which was rejected. We are now looking for our own $3 Million Grant for building prototypes and a beta testing model. In this proposal, Bingham Labs is suggesting a research lab that can develop uses for residential, world stage displays, corporate research, urban signage, conferencing, and business. It is intended to show prototype models for a $100 million smart grid corridor to Golden. This is a 14-mile “Proof-of-Concept” backbone for a later 210-mile National Experiment with linking 25 towns. The application activates new smart infrastructure, creating jobs, catalyzing innovation, and positioning Denver as the launchpad for a national experiment in next-generation digital storage and connectivity –Here is how it works:

The size of the Colorado market As of 2025, approximately 94.9% of Colorado locations have access to high-speed broadband (100 Mbps download / 20 Mbps upload), but specific fiber optic (FTTH) coverage is lower and varies by region.

Here's a breakdown of the current fiber optic connectivity landscape in Colorado: Broadband vs. Fiber Optic Coverage

• 94.9% of Colorado locations are served with broadband speeds of at least 100 Mbps down / 20 Mbps up.• This includes a mix of technologies: fiber, cable, DSL, fixed wireless, and satellite. • Fiber-to-the-Home (FTTH) coverage is not explicitly broken out in Colorado's public dashboards, but national benchmarking suggests Colorado's FTTH availability is below 80%, trailing states like Rhode Island and North Dakota.

🧭 Regional Disparities

• Urban and suburban areas (Denver, Boulder, Fort Collins) tend to have higher FTTH penetration, often exceeding 70–80%. Rural and mountainous regions lag behind, with significantly lower fiber access, sometimes below 50%. Expansion Goals: • Colorado's Broadband Office aims to connect 99% of households to high-speed broadband by 2027, with a strong emphasis on expanding fiber infrastructure. • Over 100,000 locations still lack adequate broadband service, and $229.7 million has been awarded to accelerate deployment. Special Districts

The special districts should be introduced by the City of Denver in the initial phase in order to build the Personal Agent network.

Skyways Transport Allocations Links To Everything

$3 Million in Grants to evaluate the technologies, financial Models and Partnerships
$100 Million (the backbone) funded by experimental Revenue Bonds
$125,000,000 for Leg 1 Experimental Platte Valley Loop with (6 hotspots)
$375,000,000 for Leg 2 to Golden via Colfax with 4 to 5 Special Districts
Downtown first area of partnership in planning, beta testing, Special District
Research Center collects Machine Learning at all Special Districts
World Stages In Leg #1 with 9 locations on the Platte Valley 5-to-6-mile loop
Retail District Campus at the State Crossroads of Colfax and Wadsworth
$1 Billion Total for all 6 smart Infrastructures downtown for 14 miles to Golden

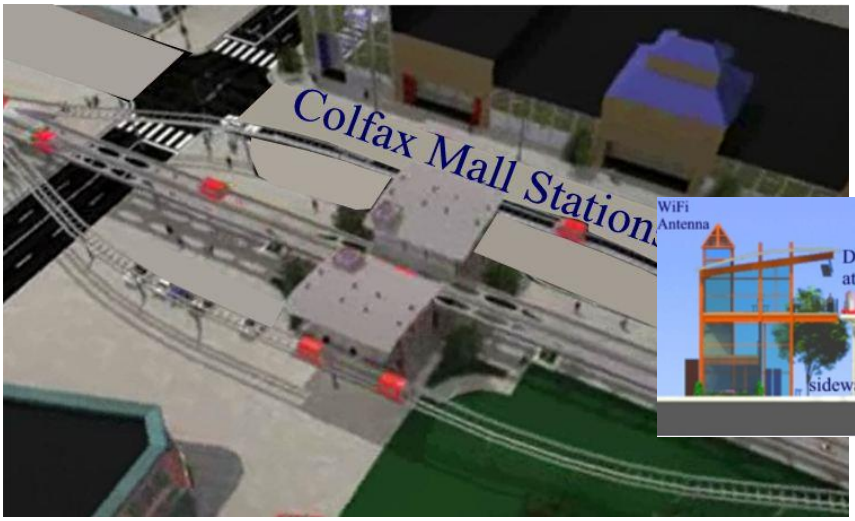
* Transport, Delivery, Oasis machines, Smart grid, Ai Media, Carbon Capture
* 25 town special districts and 50 Stations
* 10 :1 Ripple effect

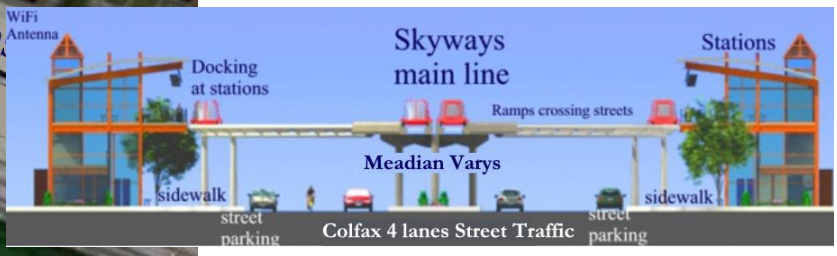
$3 Million Stimulates - A working prototype is expected to draw attention to planning the other proposed smart infrastructures such as the first Leg of the Colfax route to the mountains. The Smart Grid of Personal Agents will only be one of six smart infrastructures, but it will be first and followed by an Ai Holographic Media technology for capture and display. This is so new it will require a research center for Storage and Transmission of the more dense and complex media technologies.

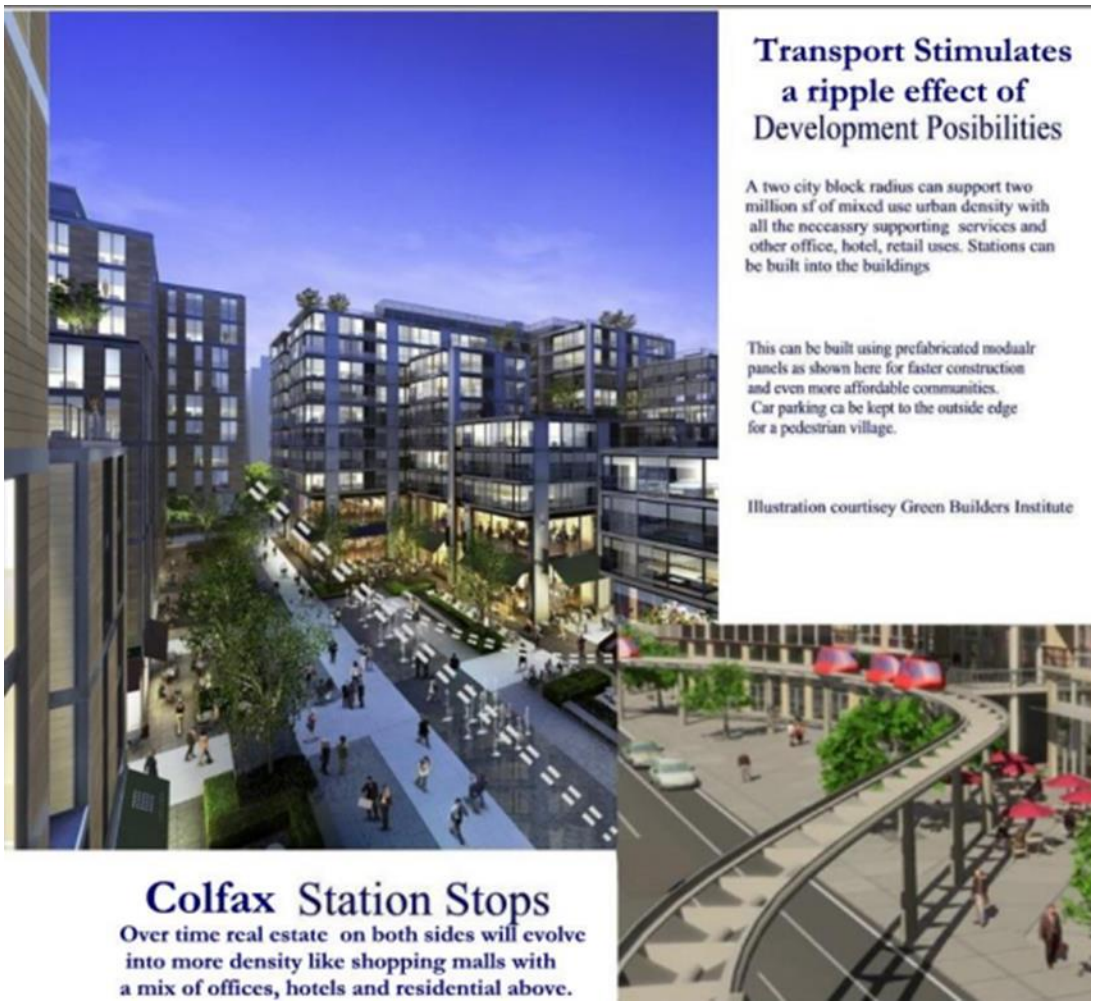
Leg # I is the Platte Valley Embarcadero Loop - This is an idea for 5-to-6-mile route of all six infrastructures for coordination of design/voting/funding/ construction for each technology. The digital media are hung from framework of the guideway as shown in the sketch below. The yellow areas are potentially Ai Factories or World Stages from adding Ai Holographic media later. The purple zones are for development. Combined they will be large enough for a mini city.

Leg #2 The Colfax Mall Districts [See slideshow]

Leg # 2 uses the Colfax corridor spanning 14 miles from downtown Denver to Golden. This first $100 million initiative will serve as a Personal Agents proof-of-concept for a scalable statewide network, integrating advanced technologies in data storage, transmission, and AI media. It is proposed as a Public-Private Partnership (PPP) with the State of Colorado, and the City of Denver the project is intended to be financed through Revenue Bonds—minimizing public financial risk while maximizing long-term economic value. Other smart infrastructures will follow. **The Big Picture**. In fact, the 14-mile corridor should stimulate a $1 Billion prototype with all six smart infrastructure involved possibly in this order: $100 million Ai Smart -Grid, $100 Million for Ai data factories and storage, $100 Million for Oasis Machines for water, $500 million for Skyways transport, $100 million for Automated delivery networks and warehouses, and $100 Million for Carbon Capture.







Built in stations with driverless car and van exclusive lanes and drop-off cutout

Digital media can be incorporated into the Guideway structure by hanging 3" fiber optic pipes underneath the Guideway creating thousands of streaming channels. Water and carbon can use the same easement but mostly on the ground.

To activate links, See UniversalMind31225.pdf slide 15

What are the Components of Building a Data Center?

Building a **greenfield** data center, including the necessary infrastructure and components used in the operation of the facility, can generally be broken down into four main categories: i) land and building shell, ii) electrical systems, iii) HVAC / mechanical / cooling systems, and iv) building fit-out. Below is a description of each of these categories, alongside their typical cost breakdown ranges:

1. **Land and Building Shell (15% to 20%):** building shell, raised floor
2. **Electrical Systems (40% to 45%):** electrical backup generator, batteries, power distribution unit (PDU), uninterruptible power supply (UPS), switchgear / transformers
3. **HVAC / Mechanical / Cooling Systems (15% to 20%):** computer room air conditioner (CRAC), computer room air handler (CRAH), air cooled chillers, chilled water storage and pipes
4. **Building Fit-Out (20% to 25%):** lobby / entrance, meet-me room (MMR), shipping & receiving area

https://www.maysteel.com/data-center-solutions

DAMAC data center structures: A powerfully simple solution

Eliminate complex, multi-phase data center buildouts. The DAMAC Structure is a prefabricated system that helps optimize cooling, cabling, power distribution and more, while reducing costs and enhancing efficiency. Its durable tubular steel construction, this proven, turnkey solution provides a flexible, scalable platform for web-scale IT deployments.

FIND MY SOLUTION

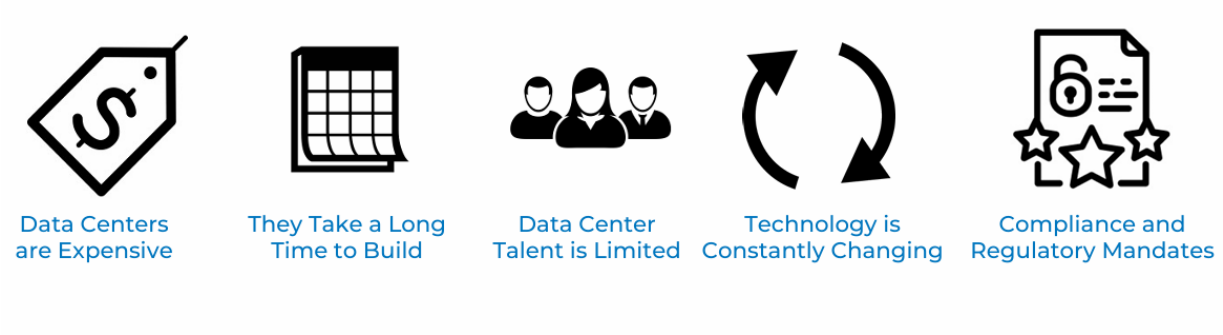
[How does a data Center make money?]

[The state of the Data Center Industry]

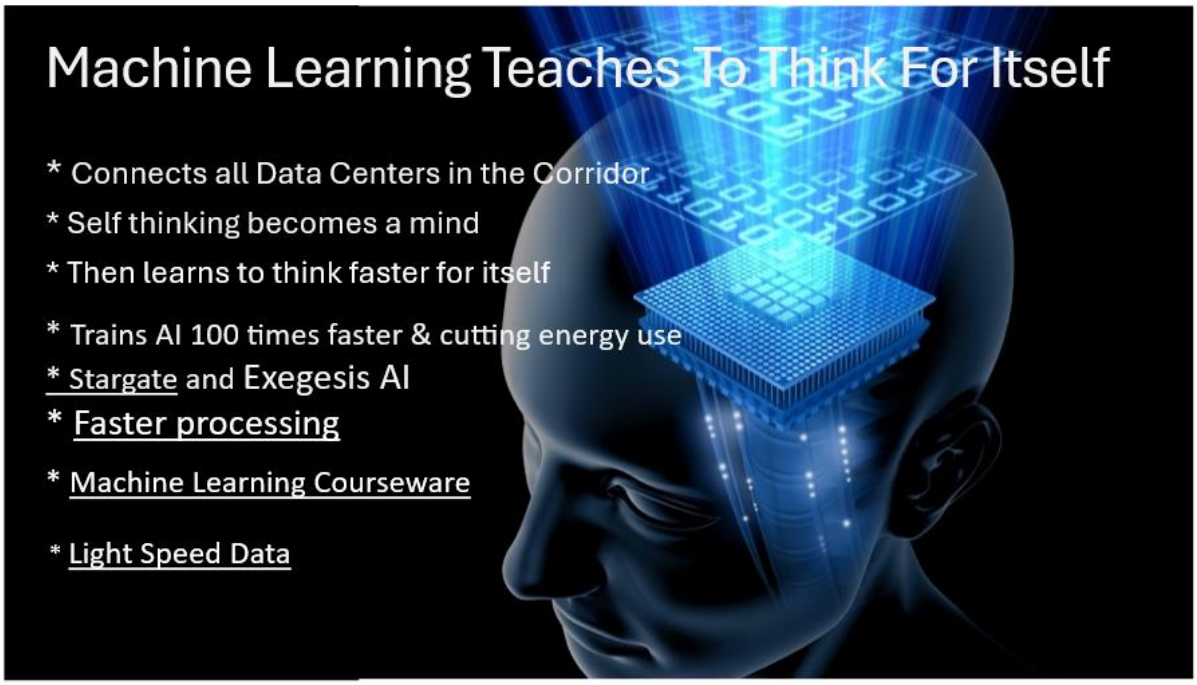
[What are data centers]

There are 5,400 Data centers in the US

Why would a company outsource its data?

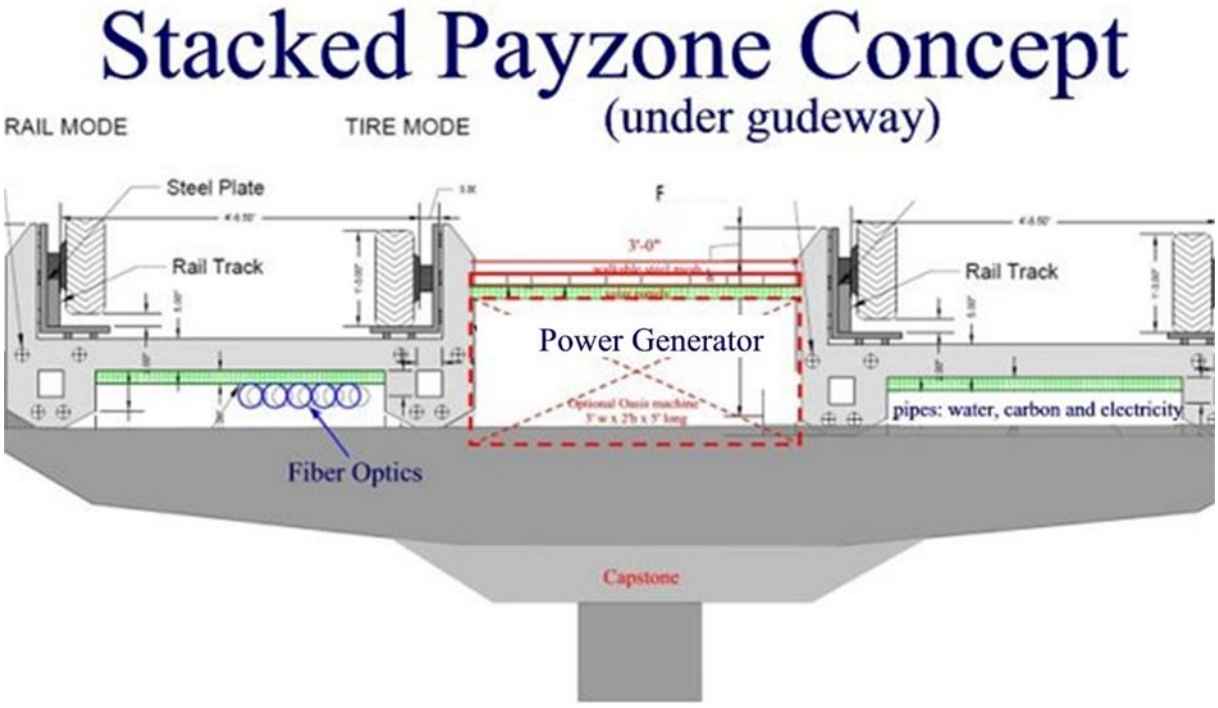


This is how much data is created every 60 seconds

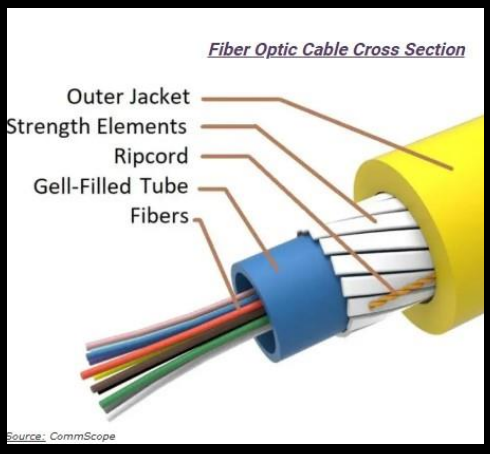


World Stages for Ai factories

Fiber Optics lines underneath the Guideways link all Ai Factories



Fiber Splicing Video



Multiplexing Our Fibers up to thousands of Data Streams
(via six hung 3" pipes under guideway)
* Fiber optic cable Installation

Types of users

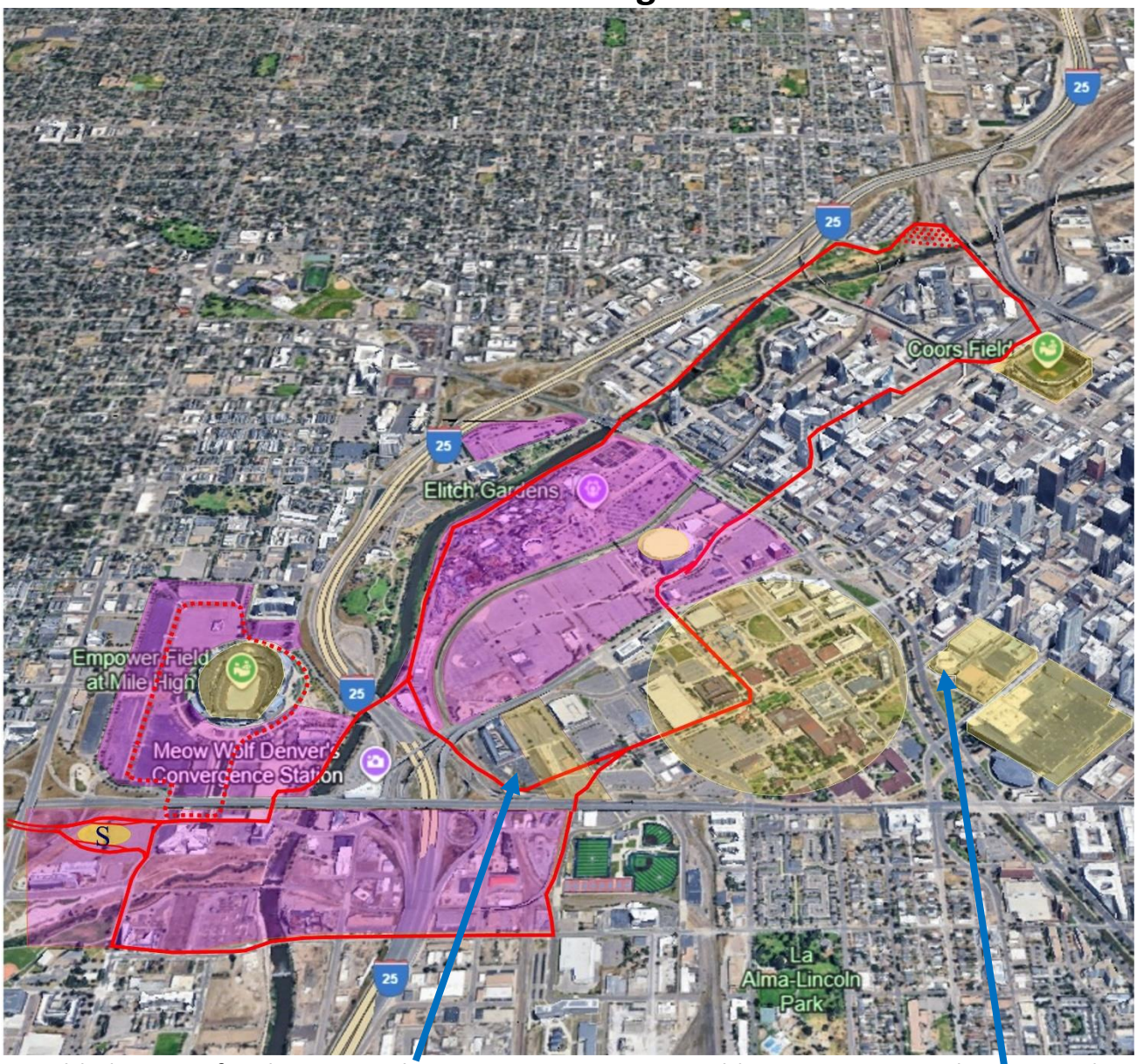
- Engineers
* Education
* Geologists
* Entertainment
* Real Estate
* Construction
* Car Sales
* Fashion
* Space
* Sports
* Banking
* Medical
* Scientific Research
* Truck Drivers
* IT professionals
* Climate

Using WDM technology now commercially available, the bandwidth of a fiber can be divided into as many as 160 channels[38] to support a combined bit rate in the range of 1.6 Tbit/s.

In turn each of the Ai Factories will have machine learning for a specific type of data they choose. For example Vail could choose outdoor sports, Ft Collins could specializes

in Forest and Agriculture, Boulder specializes in Space, Dillon could specialize in Moutain Living, Denver could specialize in entertainment and banking. Everything connects to the research center where ever it could get built.

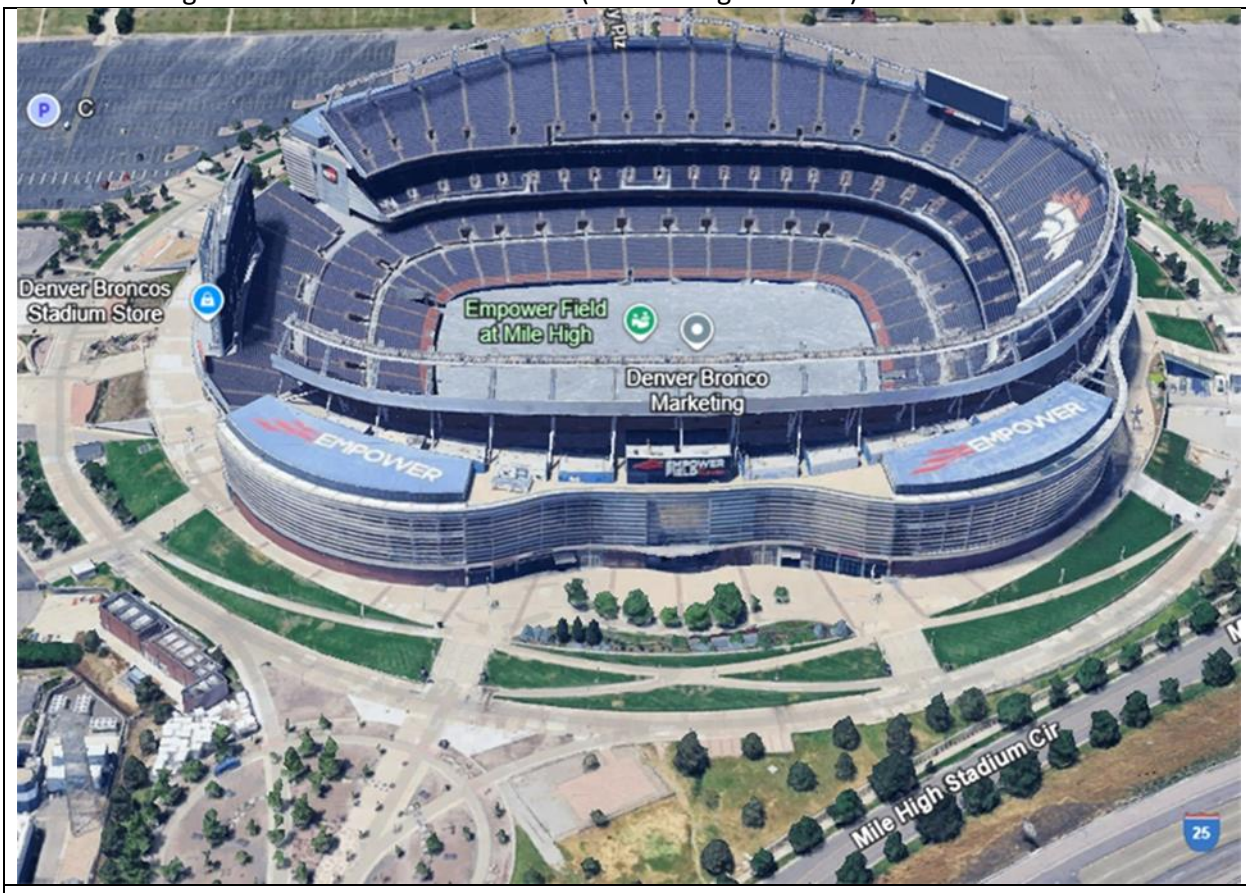
Locations for 7 Potential World Stages or Ai Media Factories



Possible location for the Research Campus in Denvers World Stages District. The Arts and Venues can represent the Denver Center for Performing Arts with it's 9 venues. The auraria campus, the Bronco Stadium and the baaseball field are already districts, so fewer new Districts are needed. These can be equiped with Ai cameras, recorders, display and interactive features linked the fiber optics network for Colorado distribution and to satelites to global distribution. See slideshow

Stadium Redevelopment as a World Stage

This would be ground zero for the Ai Factories (distributing AI media)



Broncos Stadium District surrounded by parking lots in yellow that have revenue potential. Over time these could be built over with parking garages underneath and Studios on top.

Proposed Park Development on Stadium Parking Garage. The yellow-highlighted areas on the aerial view of Empower Field at Mile High represent proposed parking garages with Ai production studios on top. To enhance community engagement and environmental quality, we propose developing green park spaces on top of these garages that link the studios into a pathway for circulation.

Park Features*Green roofs with native plants and trees to improve air quality and provide shade. * Walking paths and seating areas for relaxation and social gatherings. * Outdoor studios and event spaces integrated with the new Ai Studio production facilities. * Sustainable water management systems including a public partneship on water from air technology. * Electrolysis integrated with green spaces to power equipment.

A mall under a glass canopy connecting the entire site with driverless circulators that Links 3 blocks to the CDOT Station, a regional hub for routes west and north, someday east. This illustration shows one possibility for density and the mall canopy. Below is a look inside the mall concourse with a different type of roof and less density.

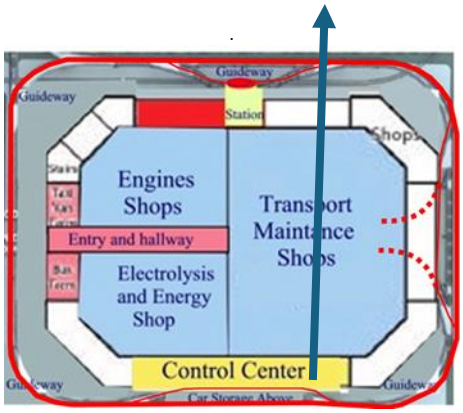
Funding. With the Denver Broncos building a new stadium, the existing owner will need a new source of revenue. These are ideas that generate dailey parking revenues, plus preleasing the top level to Ai factories like Hollywood studios, and preleasing mall stores integrated into the parking structure like above. The basic concpt is to use Public Finance to build it for economic devopment of the entire state of Colorado as potential customers and publishers. The World Stage are probably a multi billion dollar sum over a 5 year period.

Research Center - In the back of the Auraria campus there is undeveloped land enough for a Research Center. Auraria probably already has plans for it, but a rsearch center would be the highest and best use and would attract lots of investment capital. This map also shows the location of 6 other World Stages in yellow. The blue line is a possible one lane guideway for the experimental 6 mile loop connecctng the Colfax route to downtown Denver. Red represents development areas. In 2025 over $164 Billion was invested in Ai and the figure is climbing each year. The U.S. AI market is projected to grow at 35% CAGR, reaching $749.6 billion by 2030. With all of Denver's resourses, it should be able to grab a $1 billion of $2 over the next 5 years. The reseaech center will be connected by an advanced Fiber Optic Connection to the data centers (Ai Factorys) in 25 towns along the 210-mile corridor. So they will always have the latest. and so on. Their data can all be reported to the

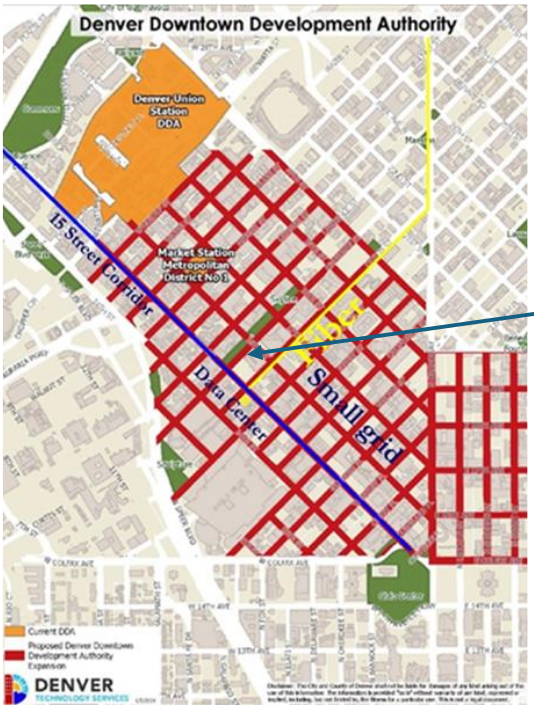
research center and shared.

Auraria Research Campus for Transport

Although these transport ideas have been around for 30 years and constant improvements have been made to driverless software, no one has yet built anything like it in America, especially with integrating smart infrastructures with it. The water from air is about 10 years old as is Carbon Capture, but the Ai technology is still fairly new and has not been concentrated into a “Stacked Pay Zone” corridor before. A research center is needed to stimulate the smart technologies but also to collect the Machine Learning from the 25 Special Districts that create it.



3. Location and Site Details



Data Center Headquarters for CoreSite

To Be Continued