# CALIFORNIA SUSTAINABLE FREIGHT ACTION PLAN
# PILOT PROJECT IDEA

## I. Name and contact information:

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## II. Project title:

Far-Northern California Consolidated Freight and Renewable Energy Hub

## III. Project location:

Interstate 5
Shasta County
Post mile SHA R4.297
Longitude 40.438978 N, latitude-122.282263 W)

## IV. Executive summary

The uncoordinated transport of $1 billion in agricultural commodities each year within Far-Northern California and to external markets is a major contributor of statewide greenhouse emissions. Addressing transport-related inefficiencies in this sector will affect the region's grossest emission sources, expand economic opportunity, and more effectively utilize California's essential freight corridors. A consolidated freight and renewable energy hub with direct access to Interstate 5 and freight rail is proposed. The hub would be located in the city of Anderson and serve the eight-county Far-Northern California region (see Attachment A). Support is needed to: 1) attract a qualified hub operator-broker; 2) connect the hub to the neighboring renewable energy power plant; 3) provide shared-access to advanced vehicle and logistics technologies; and 4) develop and administer an incentive program to accelerate industry clustering around the hub.

Rather than an incremental advancement of an existing program, the proposed project represents a new model for sustainable freight movement – one with the capacity for exponential performance gains over time. The need for such a hub was first documented in the North State Transportation for Economic Development Study completed by SRTA in 2013. A partnership between SRTA, Superior California Economic Development, and Growing Local (a coalition of agriculture industry advocates representing far-northern California) was subsequently formed to develop and implement the hub concept. A detailed business plan, greenhouse gas emission model, and demonstration project are presently being performed with funding support from a Caltrans Strategic Partnerships grant. Representatives from ARB and the California Energy Commission toured the candidate site on November 3.

**V. Detailed description of how the pilot project idea components will incorporate advanced technologies, alternative fuels, freight and fuel infrastructure, and local economic development; and advance goals of improving freight efficiency, transitioning to zero-emission technologies, and increasing competitiveness of California's freight system**

Building upon existing regional investments shown in Exhibit B, a joint pilot project is proposed with the following major work tasks:

**Task #1 – Hub Start-up and Initial Operations Revenue Assistance**

The absence of intermodal freight infrastructure to support freight consolidation and transloading between truck and rail was identified as a major economic disadvantage in the North State Transportation for Economic Development Study (2013). Without supporting infrastructure, partial loads, deadheading, and other inefficient practices are contributing unnecessarily toward interregional travel demand and greenhouse gas emissions. A consolidated freight hub situated at the geographic center and transportation crossroads of Far-Northern California is proposed, one that provides direct access to Interstate 5 and freight rail.

A capable, experienced, and motivated operator-broker is needed manage the hub and make it self-sustaining within three to five years. At least three interested and qualified operator-brokers have been identified. Similar to incentives provided to airlines to establish passenger air service in smaller regional markets, it is proposed that start-up and initial operating revenue assistance be provided to reduce financial risk and afford the operator-broker a time-limited period to build up the hub.

**Task #2 – Renewable Energy Connecting Infrastructure**

The ideal candidate site for the hub is adjacent to one of the largest renewable energy power plants in California (54.9 megawatt capacity). A unique opportunity exists to utilize this renewable energy source to directly power the hub and to charge electric vehicles pulsing in and out of the hub. It is proposed that an electric utility infrastructure connection be made between Wheelabrator Shasta Energy Company and the hub site. If is further proposed that fast-charging stations be installed for use by the hub's cooperative electric vehicle demonstration fleet (see Task #3). Charging would be available to all hub participants to further encourage private sector transition to electric vehicles.

**Task #3 – Cooperative Advanced Vehicle and Technology Component**

Of the 6,400 farms operating in Far Northern California, the majority are small- and medium-sized producers. The productivity of these producers is capped by the lack of viable transport options. Individual producers are unable to acquire and apply advanced vehicles and technologies to increase efficiency, scale-up operations, and compete effectively in state, national, and international markets. The hub will act as a cooperative, increasing access to and sharing the cost of acquiring and managing: 1) a demonstration fleet of advanced vehicles (e.g. local delivery trucks, renewable energy fuel delivery trucks, on-site fork lifts, etc); and 2) the deployment of advanced logistics (e.g. tracking, and other efficiency-enhancing technologies).

**Task #4 – Industry Clustering and Coordinated Transport Incentive Program**

A successful hub will be reinforced by direct and indirect private industry investment. It is proposed that seed funds be provided for SRTA to develop and administer an 'Industry Clustering and Coordinated Transport Incentive Program'. This program will accelerate the development of 'Strategic Freight Areas' being developed for SRTA's 2018 Regional Transportation Plan update. Within Strategic Freight Areas, local, regional, and private sector investments, policies, and programs will be layered to maximize performance potential. The resultant nodes of interrelated industry will support freight consolidation as well as the development of origin-destination charging infrastructure for intra-regional trips.

Clustering interrelated industries around the hub and Strategic Freight Areas will in turn support local production, processing, and consumption of commodities. The United States Department of Agriculture (USDA), in collaboration with Dr. Jacob Brimlow, an agricultural economist at California State University, Chico, determined that 70% of consumption needs could be met with local production compared to actual local food consumption of about 5%. The clustering of interrelated industries around the hub will capitalize on this economic growth potential while reducing food miles traveled and associated greenhouse gas emissions.

To further enhance local economic development and increase the competitiveness of California's freight system, travel demand reduction efforts described above must be employed in combination with roadway maintenance, safety, and capacity-increasing investments. Notable projects include:

- Deschutes Road Interchange (Interstate 5);
- Cottonwood Hills Truck Climbing Lane (Interstate 5);
- South Redding Six-Lane Project (Interstate 5);
- Dana to Downtown Project (Interstate 5/State Route 299 Interchange);
- Buckhorn Grade Realignment (State Route 299); and
- Future near-term projects (e.g. Redding to Anderson Six-Lane Project (Interstate 5) and the Stillwater Road Interchange Project (State Route 44)).

Regional partners are also vested in a variety of supportive initiatives and programs, including but not limited to:

- North Valley Food Hub (http://northvalleyfoodhub.com) – This virtual online food hub was successfully launched in the summer of 2014. This project serves as the underlying operational model for the proposed hub.
- Permanent Shasta Farmers Market Initiative – A broad community coalition was formed to establish a permanent home for the farmers' market in Shasta County. The McConnell Foundation (www.mcconnellfoundation.org) and the City of Redding are working toward a land swap to obtain Union Pacific Railroad property located in the heart of Redding. This future facility will serve as a satellite to the larger hub.

## VI. Estimated cost for implementation and existing funding commitments (include any funding limitations or constraints) by stakeholder and amount

A detailed line-item budget is being prepared as part of the Caltrans-funded *Far-Northern California Consolidated Goods & Freight Hub Study.* Actual costs may vary from the following estimates:

| TASK/DESCRIPTION | EST. BUDGET |
|---|---|
| **Task 1** | |
| 1.1 Start-up costs | $3,000,000 |
| 1.2 Backfill initial operating costs | $900,000 |
| **Task 2** | |
| 2.1 Connect hub to Wheelabrator Shasta Energy Company | $300,000 |
| 2.2 Hub and vehicle charging infrastructure | $500,000 |
| **Task 3** | |
| 3.1 Acquire and manage advanced technology demonstration fleet | $1,300,000 |
| 3.2 Acquire and manage advanced technology applications (logistics, tracking, etc) | $500,000 |
| **Task 4** | |
| 4.1 Develop and administer *Industry Clustering & Consolidated Transport Incentive Program* | $1,000,000 |
| TOTAL: | $7,500,000 |

By comparison, the cost for the Redding to Anderson Six-Lane Project (adds one additional southbound and one additional northbound lane for 5.5 miles) is estimated at $32 million. Optimizing transportation system utilization *in combination with* strategic and timely system capacity improvements (including but limited to the Redding to Anderson Six-Lane Project) constitute a holistic approach to ensuring the long-term utility and preservation of the Interstate 5 and State Route 299/44 corridors.

## VII. Timeline

| TASK/DESCRIPTION | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|
| | *Far-Northern California Consolidated Goods & Freight Study (Caltrans-funded*) | | | | | | | |
| 1.1 | Start-up | | | | | | | |
| 1.2 | Initial Operating | | | | | | | |
| 2.1 | Renewable Energy Connection | | | | | | | |
| 2.2 | Hub & Vehicle Charging Infrastructure | | | | | | | |
| 3.1 | Advanced Vehicle Demonstration Fleet (Acquire & manage) | | | | | | | |
| 3.2 | Advanced Technology Applications | | | | | | | |
| 4.1 | Industry Clustering Incentive Program | | | | | | | |

**VIII. Means for measuring progress toward meeting goals over time.**

SRTA's *Far-Northern California Consolidated Goods and Freight Movement Study* includes the development of a freight demand model and emissions post processing. Outputs will be used to establish baseline data. Targets for annual reductions will coincide with major project milestones and shall be ramped up over time in consideration of actual performance. The study will also include a detailed analysis of initial and ongoing operational costs, and the corresponding volume of hub activity required to meet the goal of a self-sustaining operation. Specific measures and methodology will be available by mid-2016.

**IX. Description of the potential roles each of the interagency partners could provide to support the project's implementation.**

The benefits of the hub extend beyond a freight transport facility. As illustrated in the Hub Concept Diagram (see Attachment C ), the longer-term vision of the hub includes a variety of cooperative support services and programs that target the full range of greenhouse gas emission reductions, including but not limited to industry inputs, agricultural activities, processing, and so forth. Areas of potential interagency support are highlighted below; however, the full extent of these services will require further interagency discussion.

California State Transportation Agency/California Department of Transportation:

- Technical planning and policy support, particularly in the area of freight rail, truck-rail transloading, and the relocating of Union Pacific Railroad switching operations from Downtown Redding to just south of the hub candidate site.

California Environmental Protection Agency:

- Technical assistance and policy support.

California Natural Resources Agency:

- Support effective land management practices, focusing on agriculture, natural resource, and other working landscapes.
- Financial, technical, and policy support needed to ensure the long-term operation and optimal utilization of the Wheelabrator renewable energy power plant.

California Air Resources Board:

- Financial and technical assistance identifying the most project-appropriate and cost-effective greenhouse gas emission reduction technologies and applications.

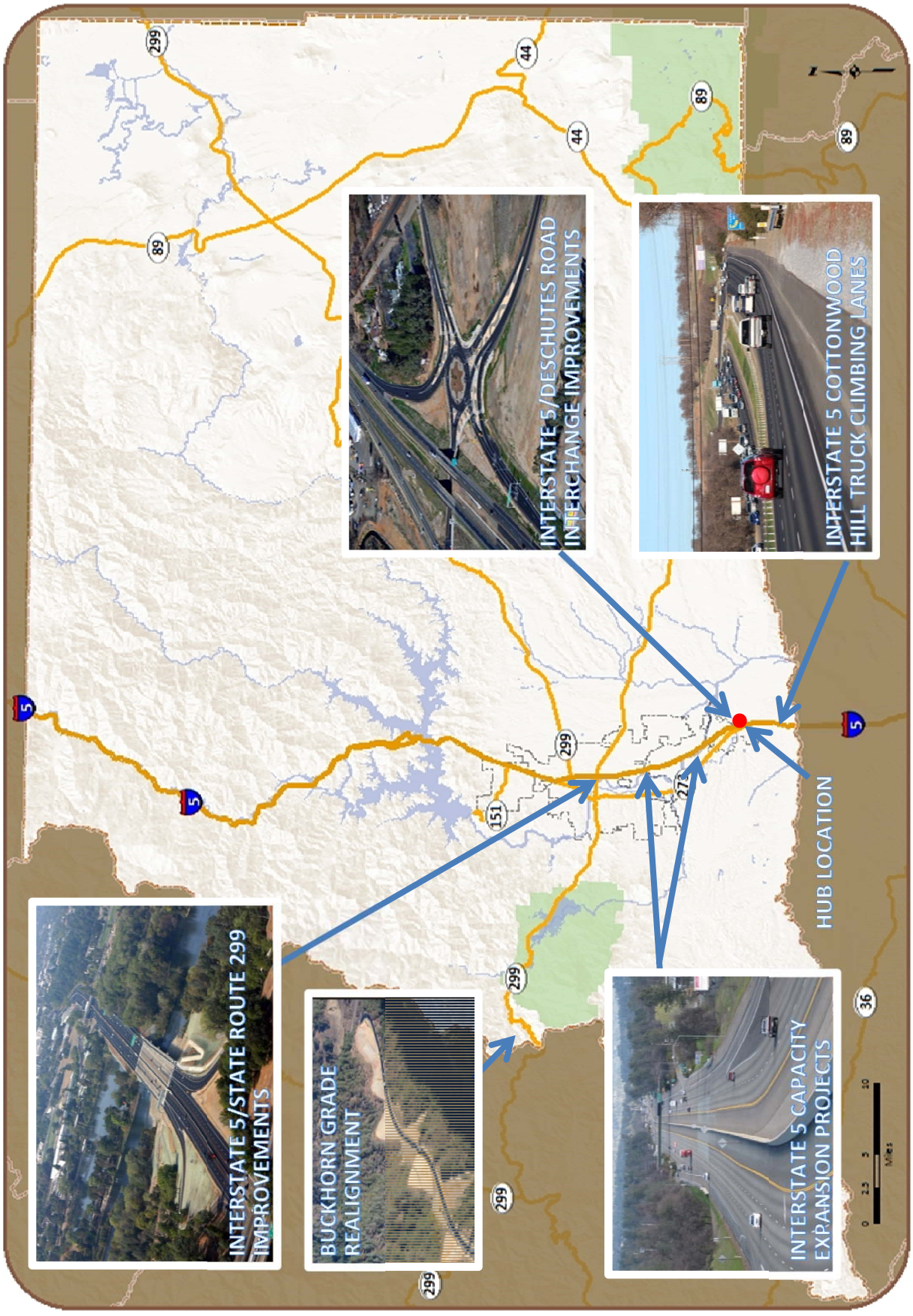
California Energy Commission:

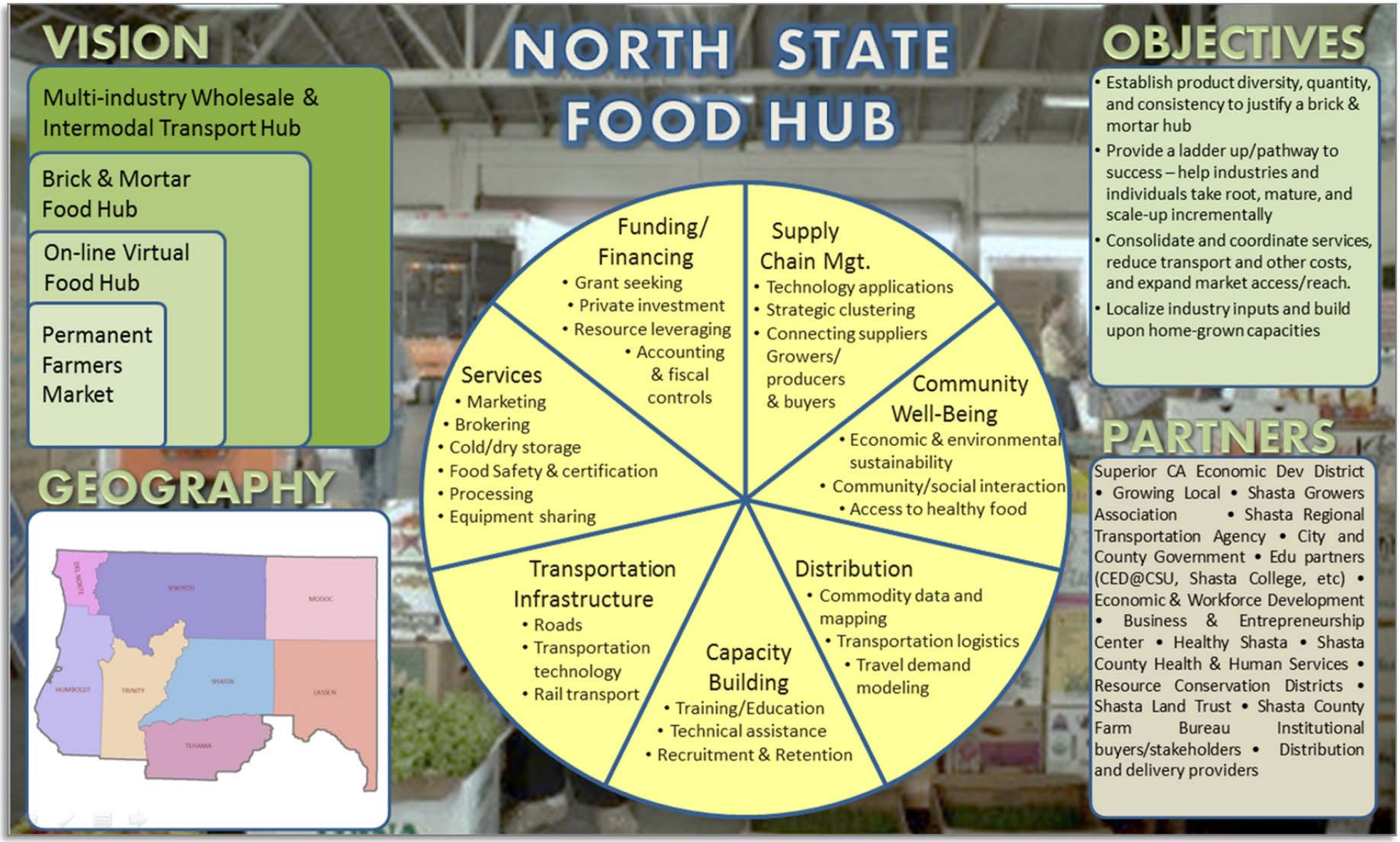
- Technical assistance and policy support to ensure the continued operation and optimal utilization of the Wheelabrator renewable energy power plant. Wheelabrator's exclusive contract with PG&E expires in August 2016.
- Capital costs for charging infrastructure and the selection and procurement of project-appropriate electric vehicle demonstration fleet.

Governor's Office of Business and Economic Development:

- Financial and technical support for the development and administration of the Industry Clustering and Consolidated Transport Incentive Program.

**ATTACHMENT A: REGIONAL OVERVIEW**



**ATTACHMENT B: AERIAL SITE MAP**

**ATTACHMENT C: HUB CONCEPT DIAGRAM**