Economic Development Planning, Summary 20

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Title: Freight Transportation Framework Study: Technical Memorandum II – Sun Corridor Supply Chain Opportunities

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Source: Parsons Brinckerhoff of New York, in cooperation with KDA Creative and RCLCo

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Summary: The Sun Corridor is a Top 10 consumer market. It is strategically located to serve as a distribution gateway for near-shored products that are made in Mexico. The Sun Corridor can also serve as a mixing center that pools imported goods with products shipped from the southeastern United States, including ports along the Gulf Coast. The Sun Corridor is positioned to serve as a bridge between California and Texas. It is the only anchor market in the 1,500 miles between Southern California and Houston, providing an opportunity to serve as a local warehouse and distribution center. Furthermore, the Sun Corridor could serve as a major forward distribution hub for the West Coast, Northwest and Mountain West.

The study identified 16 locations that offer development opportunities for the freight industry, with a focus on four emerging areas in the Sun Corridor: West Valley along the I-10 corridor (Forward Distribution Center); Eloy and Casa Grande area, where Interstate 10 and I-8 converge, along with Union Pacific Railroad Sunset
Route (Mixing Center); Tucson International Airport area (Import Distribution Facility); and Mesa Gateway Area (Manufacturing and Local Distribution).

**Sectors:** Material handling, packaging, inventory, transportation (truck, train and air), warehousing and manufacturing.

**Geographic impact:** Arizona, Mexico, California, Texas, Gulf Coast, Northwest, and Mountain West.

**Key actors:** Arizona Commerce Authority, Transportation and Trade Alliance, Arizona governor and Legislature, Arizona Department of Transportation, Joint Planning Advisory Council (with support from the Maricopa Association of Governments, Pima Association of Governments and Central Arizona Governments), Phoenix Economic Development Council, Tucson Regional Economic Opportunities, Union Pacific, Burlington Northern Santa Fe, Ferromex, city of Phoenix, city of Tucson, city of Mesa, city of Buckeye, cities of Eloy and Casa Grande, Sky Harbor International Airport, Phoenix-Mesa Gateway Airport, Tucson International Airport, U.S. Department of Commerce, and the Mexican states of Sonora, Sinaloa, Nayarit and Jalisco.

**Major challenges:** Both Texas and New Mexico are moving aggressively on the trade front. Texas is outperforming Arizona in importing products and is successfully shifting freight movement from Arizona’s ports of entry to those in Texas. New Mexico is also pursuing trade partnerships with Mexico. A new rail port at Santa Teresa, N.M., just north of Juarez, is creating thousands of jobs and new opportunities for shipping. The ports of entry in Arizona need to expedite the movement of people and goods, something that should improve with infrastructure work nearing completion. Longer hours and more staff also would improve border crossings.

There are significant cost differentials for cargo shipments to and from the Sun Corridor because of an imbalance in inbound vs. outbound cargo. Most distribution and logistical processes are occurring in Southern California with the delivery of mostly finished consumer goods coming into the Sun Corridor. The Sun Corridor will not handle any cargo that goes through the Panama Canal instead of being shipped to a Southern California port. Better north-south rail connectivity could increase shipments between the U.S. and Mexico. The CANAMEX Corridor needs to be promoted and any construction of Interstate 11 is probably a decade or more away, with many funding and environmental questions to be answered.

**Progress to date:** Phase 2 of the freight study will begin in late 2013 by, among other things, more deeply evaluating the 16 focus areas identified in Phase I with
the goal of creating freight districts in Maricopa County and parts of Pinal County. The 18-month study by Parsons Brinckerhoff will identify areas where cities want industrial development and envision freight corridors. The study will determine ways to move freight more efficiently, analyzing delivery times, bottlenecks, vehicle use and what corridors freight companies use. A list of potential freight-related projects – mixing, forward distribution, import distribution, and manufacturing and local distribution centers – will be developed that the region can pursue to spur economic development. Specific recommendations for signage, road widening and corridors will be developed as well as a marketing campaign. An outreach effort will answer questions and inform the public about the value of freight to the growth of the Sun Corridor’s economy.

**Major implications:** As the 10th largest U.S. metropolitan market by population, the Sun Corridor offers competitive labor, land, and transportation costs to serve domestic and international markets. The Sun Corridor’s location makes it a key national market along the east-west trade route between California and Texas, and the international market along the north-south CANAMEX trade route. The Sun Corridor has access to five interstate highways, five airports (including Phoenix’s Sky Harbor International Airport, Phoenix-Gateway Airport and Tucson International Airport), and two major freight railroads, the Union Pacific and Burlington Northern Santa Fe.

As nearshoring increases in Mexico, a leading opportunity for the Sun Corridor is to serve as a hub for import distribution centers (IDCs) staging products made in Sonora and other Mexican states. This staging could include value-adding functions like product modification and packaging as well as storing products or speeding up shipment and changing the shipping destination. These IDCs could be expanded into mixing centers, pooling Mexican imports with products from other parts of the country being shipped west to the Pacific Coast. Delivery could be by truck, rail or air.

**Opportunities for alignment:** The list of potential partnerships is long as significant coordination and cooperation is needed between all levels of government, including local, county, state, regional and national, as well as the private sector. There needs to be cooperation among landowners, regional and national developers and companies. The Arizona Commerce Authority and Transportation and Trade Alliance are key to the realization of freight initiatives. The Joint Planning Advisory Council with support from the Maricopa Association of Governments, Pima Association of Governments and Central Arizona Governments are essential players. Identifying opportunities requiring multiregional support will take the coordination and cooperation of state agencies, MPOs and counties.
Support is needed from the U.S. Department of Commerce and its Mexican counterpart as well as the four Mexican corridor states of Sonora, Sinaloa, Nayarit and Jalisco. The Economic Development Council for Sonora promotes economic development in Sonora and represents a key strategic partner. Within the Sun Corridor, such economic development groups as the Phoenix Economic Development Council and Tucson Regional Economic Opportunities will have major roles. The Union Pacific, Ferromex and truck lines in both Mexico and the U.S. are essential as well as such airports as Sky Harbor, Phoenix-Mesa Gateway and Tucson International Airport.

**Major challenges:** The Sun Corridor is not a major distribution hub today. However, there is an opportunity to change that by capturing westbound products and mixing them with nearshored Mexican goods provided the region invests in infrastructure to realize that opportunity. Among the elements that need to fall into place: Constructing modern distribution properties with access to local and long-distance markets. Reducing delays in crossing the border, with the result that Nogales offers one of the most efficient operations on the border. Explore having Mexican trucks transport products the 66 miles from Nogales to IDCs in Tucson in light of the slow-moving U.S. pilot program. Also important: reliable truck capacity, more rail because it provides low-cost transportation over long distances, and access to air freight because it is the fail-safe for high-speed logistics. Ample capacity on the multimodal corridors is needed, including the proposed Interstate 11 from Phoenix or Nogales to Las Vegas and beyond.

**Background:** About 12 million people are expected to live in the Sun Corridor by 2050, making it an even more substantial market whose location between California and Texas, and proximity to Mexico, positions it as a strategic bridge between major markets and the global supply chain. The growth is expected to place a significant strain on the transportation network that serves Maricopa, Pinal and Pima counties, impacting freight operations and other traffic. At the same time, the Sun Corridor has an opportunity to develop as a distribution hub, taking advantage of its location, existing assets and new infrastructure. About 85 percent of Arizonans live in the Sun Corridor, typically viewed as stretching from Prescott to Nogales but in this case is understood to encompass the Phoenix and Tucson metropolitan areas, as well as the Maricopa Association of Governments, Central Arizona Association of Governments and Pima Association of Governments.

U.S.-bound Mexican shipping to or through Arizona totaled $13.8 billion in 2009 commodity value, and amounted to 5 million tons: equivalent to 1,100 truckloads per day. Machinery, electronics, transportation equipment, and food accounted for the top imports. Of the through traffic, two-thirds is headed for California.
Between 70 percent and 80 percent of Sun Corridor goods originate or terminate in Maricopa County. Pima County accounts for 15 percent to 25 percent of goods, and Pinal County accounts for 3 percent to 9 percent.

Over $58 billion of goods are exported from the Sun Corridor annually to domestic destinations, which equates to just under $40 per capita per day on average for the region. The value of domestic exports is about $16 billion less than the value of domestic imports. Maricopa County exports 78 percent of the value of all goods followed by Pima County, 17 percent and Pinal County, 5 percent.

More than $3.5 billion of goods are imported into the Sun Corridor annually from other countries, including more than $3 billion of goods from Mexico. Farm products, electrical equipment, machinery, and food products account for nearly 75 percent of the total value of goods from Mexico.

More than $4.5 billion of goods are exported from the Sun Corridor annually to international destinations, equating to about $3 per capita per day on average. Electrical equipment and machinery account for more than 45 percent of the total value of all goods. Transportation equipment, primary metal products, chemical products, or fabricated metal products account for 30 percent of the total value of all goods.

More than $2.7 billion of goods are exported from the Sun Corridor annually to Mexico, which equates to about $1.70 per capita per day on average for the region. Machinery, fabricated metal products and electrical equipment are shipped to Mexico for assembly. Maricopa County exports 76 percent of the value of goods, followed by Pima County at 17 percent, and Pinal County, 7 percent.

Focus areas

Sixteen initial areas throughout the Sun Corridor were identified as possible locations to locate freight-related projects and initiatives. Screening criteria included distance to nearest major cargo airport, miles of rail access, miles of highway/interstate, value of existing and future freight activity, percent of existing commercial and industrial land, percent of developable land, existing labor force, existence of foreign trade zone, land use regulations and economic policies and opportunity value.

The most favorable characteristics for freight-related growth potential were generally in Maricopa and Pima counties. The top areas were Discovery Triangle (Mixing Center), West Phoenix (Manufacturing and Local Distribution Center),
Grand Avenue (Manufacturing and Local Distribution Center), Deer Valley (Manufacturing and Local Distribution Center), West Chandler (Manufacturing and Local Distribution Center), and Tucson International Airport (Import Distribution Center).

Focus areas with a medium rating included West Valley (Forward Distribution Center), Phoenix-Mesa Gateway (Manufacturing and Local Distribution Center), Pinal Airpark (Manufacturing and Local Distribution Center), Eloy, I-8 and I-10 (Mixing Center), North Tucson (Mixing Center), Marana (Manufacturing and Local Distribution Center), and Surprise (Mixing Center).

Areas with the least favorable ratings were generally in less urbanized areas of Pinal County, including La Palma (Manufacturing and Local Distribution Center), Maricopa-Casa Grande (Mixing Center), and Magma Rail Road (Manufacturing and Local Distribution Center).

Without diminishing the relevance of the 12 other areas, four areas were selected for further analysis: Tucson International Airport, Phoenix-Mesa Gateway, Eloy (I-8 and I-10), and West Valley.

**Tucson International Airport**

The characteristics of Tucson International Airport closely resemble those of an Import Distribution Center, which focuses on accepting imports and redirecting them to specific markets. The TIA area has major air, rail and freeway facilities, is located near an anchor population, is within two days by rail or truck of major Texas and Mexican source markets, has a Foreign Trade Zone designation, and is only 53 miles from the Nogales border crossing.

The area could benefit from more intermodal facilities, including intermodal transfer, consolidation and distribution operations. Key opportunities include leveraging TIA’s proximity to the land Port of Entry, protecting developable areas south of the airport, considering an I-10 and I-19 connection, target investments to accommodate the Port of Tucson, and establish and brand an intermodal logistics and hub for the Sun Corridor.

**Phoenix-Mesa Gateway**

The Phoenix-Mesa Gateway area has characteristics that are desirable for a Manufacturing and Local Distribution Facility, which focuses on production for the global market and distribution to local markets. The area has a relatively high number of college-educated workers and a concentration of manufacturing businesses. It also has major freeway, rail and air facilities, direct access to a large
local market, and is within one-day travel time by truck of major West Coast and Mexican markets. The area contains Phoenix-Mesa Gateway Airport and is 32 road miles from Sky Harbor International Airport.

More than 35 percent of land within the area is developable, suggesting an opportunity for substantial development and business relocation. Key opportunities include leveraging air, rail and highway connections, protecting developable areas surrounding Phoenix-Mesa Gateway Airport, connect SR-24 to future North-South freeway, develop skills training center for manufacturing and logistics, and take advantage of opportunities with high commercial and industrial vacancy rates.

**Eloy (I-8 and I-10)**

The center of this area is located in Eloy and Casa Grande at the convergence of two major interstates (I-8 and I-10) and the Union Pacific Railroad Sunset Route. The area has characteristics consistent with a Mixing Center, which focuses on mixing and storage of both domestic and import goods for distribution. The area has a relatively high number of high school graduates, major rail and freeway facilities, and is within one-day by truck of major West Coast and Mexican markets.

The area is 42 miles from Sky Harbor, 50 miles from Phoenix-Mesa Gateway Airport and 75 miles from Tucson International Airport. It is less than 90 miles from the proposed West Valley forward distribution center. The area is less than 40 miles from Pinal Airpark, which could be used as a future freight airport.

There are 10 miles of rail access along the Union Pacific Sunset Route. Union Pacific is looking at developing a switching yard about 15 miles south of the Interstate Junction to serve its Sunset Route. This would open up rail service to warehousing, distribution and other major industrial development, creating a significant number of jobs.

Key opportunities include protecting developable areas surrounding I-8 and I-10, promoting industrial and freight uses close to key transportation assets, identifying opportunities for lands with additional rail spurs, and establishing and branding a logistics center for the Sun Corridor.

**West Valley**

The West Valley focus area is located in Buckeye along the Interstate 10 corridor, a national freight corridor moving products from the West Coast to Phoenix and beyond. The West Valley demonstrates characteristics of a Forward Distribution Center, which focuses on moving goods to their ultimate markets – in this case, the major metropolitan areas of the West Coast, Mountain West, and Pacific Northwest.
The area is located along the CANAMEX Corridor and has direct access to I-10, State Route 85, and is a short distance from I-8. The proposed Interstate 11 is being planned in close proximity to the area. The Union Pacific provides rail access and has plans to build a rail yard in the Buckeye area.

The area has a relatively high number of high school graduates, has major rail and freeway facilities, direct access to a large local market and is within one-day by truck of major West Coast markets. The area is less than 50 miles from Sky Harbor for high-value air shipments, and there are almost 10 miles of rail access along the Union Pacific Phoenix Subdivision. More than half the area is considered developable.

Key opportunities include re-evaluating areas designated for future residential and expand areas for commercial and industrial around major transportation infrastructure, preserve truck routes with interstate highway access, support rail connections to promote efficient transportation of goods, and leverage access to available skilled labor.

At least three future highways add value to the facility zones: The North-South Freeway effectively connects Phoenix-Mesa Gateway to Eloy and offers both a high-quality alternative to I-10; the expected path of I-11 lies just north of Eloy and west of the West Valley, strengthening their functions in mixing and forward distribution; Loop 202 (South Mountain Freeway) lies east of West Valley and improves its ability to serve the local anchor market.

**Recommended actions:**

- Coordinate freight economic development efforts so that the region speaks with a unified voice and a uniform plan to become the global logistics hub of the Southwest. A central clearinghouse for freight-related economic development information opportunities and contacts would help to communicate a coordinated and uniform message.

- Create funding programs for improvements and strategic incentives (infrastructure, development incentives, and marketing). The federal transportation legislation entitled Moving Ahead for Progress in the 21st Century (MAP-21) contains a number of provisions that could help fund infrastructure. The Transportation Infrastructure Finance and Innovation Act (TIFIA) is of particular use in public-private partnerships and might be used for such projects as I-11. The Congestion Mitigation and Air Quality
Improvement Program (CMAQ) is especially relevant to the freight sector due to diesel emissions.

- Protect appropriate land for industrial development (create freight districts). The protection of land in the analysis zones for industrial use is critical. Only Phoenix-Mesa Gateway currently foresees industrial activity in a substantial portion of its area, although proposed residential development could constrain freight-related industrial expansion there.

- Encourage the U.S. Department of Transportation and Legislature to include Arizona’s interstates in the National Freight Network. It’s highly probable that this network will include Interstates 10, 19, and 40, and perhaps 17 and 8. I-11 would be eligible for designation, but with much competition. It’s important for funding purposes that Arizona’s interstates be included in this freight network.

- Create a special regional designation, such as a Sun Corridor Freight Development Zone. Traditional general plan land use designations may not be strong enough to establish region-wide protection. A Sun Corridor zone could trigger supportive investments and other incentives.

- Build international partnerships. New business and economic development opportunities can be fostered by working with Mexican governments.

- Conduct a detailed analysis for the four freight opportunity focus areas identified in the study: Tucson International Airport, West Valley, Phoenix-Gateway Area and Eloy/Casa Grande. The remaining 12 areas should be analyzed to identify opportunities for development and the steps required to achieve that development.

- Prepare conceptual business plans for specific opportunities in the Sun Corridor. This includes identifying a range of specific sites within each study area, including new development and redevelopment, and identifying developable land and landowners interested in developing their property. Also, prepare a list of specific probable public improvements that will be necessary, including highway interchange improvements.

- Support the ports of entry with Mexico. It is essential that Nogales be a state-of-the-art crossing with superb connection to staging points in the Sun Corridor. While security cannot be compromised, the latest technology should be used to expedite the crossing of trucks.
• Market the Sun Corridor to national and international supply chain developers and operators to position the region as the location of choice for future investments.