FREIGHT TRANSPORTATION FRAMEWORK STUDY
Examining Freight and Multimodal Opportunities in the Sun Corridor

Joint Planning Advisory Council
October 30, 2012
STUDY BACKGROUND
Identifying freight related development opportunities

Tim Strow
Freight Study Project Manager
Today’s Presentation

Overview

Part 1: Framework Findings
   Global Supply Chain with the Sun Corridor

Part 2: Sun Corridor Supply Chain
   Opportunities

Part 3: Five-Point Plan
   Realizing the Freight Framework

Discussion
Background

Distressed Residential Properties: March 2010
Background
Background

Composition of Arizona Exports

Mexico

China

Thailand

Malaysia

Japan

South Korea

Taiwan

Israel

Singapore

Hong Kong

United Kingdom

France

Netherlands

Brazil

Canada

Germany

Switzerland

Ireland

Australia

Italy

Spain

Source: Arizona State University

Color represents percentage change between 2009-11
Study Goal

Identify and develop freight related economic development opportunities
Regional Objectives

Capitalize on **strategic position** relative to goods movement.

Identify **added value** for supply chain.

Diversify **regional economic base**.

Create jobs.
FREIGHT FINDINGS
Global Supply Chain within the Arizona Sun Corridor

Joe Bryan
Freight Practice Leader
Initial Findings

Sun Corridor needs to better promote advantages of the region to supply chain

Land availability, lower costs, solid workforce and legislation are seen as favorable

There is a general lack of understanding regarding the benefits of the region as part of the supply chain
Initial Findings

**Northbound** and **westbound** commodity flows offer greatest potential for Sun Corridor

Bypass Southern California for distribution to AZ, SW and US, especially for imports from Mexico and Texas ports

Location affects ability to compete with Southern California for west to east commodity flows
Sun Corridor is now a major anchor market

Top 10 population in U.S. for combined MSAs

Only top market between Texas and California
Increases in transportation and labor costs are shifting economic advantage from Asia to Mexico (and U.S.)

More products are viable for production.
Mexico is now the **lowest cost producer** for many goods. Many companies are now contemplating **near-shoring** to the Americas.

**Index of U.S. Landed Costs as % of U.S. Manufacturing Cost by Country for Moderate Labor and Shipping Cost Product**

- **US**: 100%
- **Mexico**: 68%
- **Brazil**: 104%
- **China**: 74%
- **India**: 71%
- **Vietnam**: 79%

**Timelines for Near-Shoring Plans**

If near-shoring is a consideration, what is your time horizon for near-shoring Asian/Indian operations to the Americas, including Latin America?

- **Not under consideration**: 9%
- **In process, or completed within last 3 years**: 42%
- **1 year**: 21%
- **2-3 years**: 12%
- **4+ years**: 4%

*Source: AlixPartners, July 2011*
Freight Framework ‘Big Picture’
Leverage Strategic Location

Sun Corridor is now a logical hub for staging imports and distribution to West markets.

Imports from Mexico, Gulf Coast ports and SE U.S. manufacturers.

Distribution to local, California, and other West Coast markets.

Location and transportation system gives Sun Corridor advantage for East to West commodity flow.
Freight Focus Area Evaluation

Big picture overview brochure

Provides a concise reference for policy recommendations and marketing efforts
SUPPLY CHAIN OPPORTUNITIES
Freight Focus Areas and Typologies

Tom Hester
Urban Design Practice Leader
Land Use Context

Nexus of multimodal transportation, public policy & land use

Based on supply chain functions

Each function has unique requirements
Sun Corridor Supply Chain Opportunities

Sun Corridor can leverage core supply chain roles to capture ‘Big Picture’ opportunities
Supply Chain Process
Import of Materials & Goods

[Diagram showing the supply chain process, including nodes such as International Vendor, Origin Port, International Consolidation Center, US Destination Port, Regional DC, Consolidation Center/International DC, US or NAFTA Vendor, and Retail Store, with various transportation modes like Truck, Direct Rail, Intermodal Rail, Ship, and Private Fleet.]
Supply Chain Process
Regional & Local Distribution
Supply Chain Process
Consumer Point of Sale
Supply Chain Process
Sun Corridor Opportunities

Imports
Manufacturing
Distribution
Supply Chain Process

Linking to Sun Corridor

Linking supply chain opportunities to Sun Corridor locations

Sun Corridor analysis of commodity flow and major transportation infrastructure

Analysis formed basis for site selection
Freight Focus Areas Identified by Study Partners

Regional freight focus areas were identified by study partners.

Sites were identified for potential to contribute to the ‘Big Picture’
Freight Focus Areas
Sixteen Unique Sites

Maricopa
- Phoenix Mesa Gateway
- West Valley
- Discovery Triangle
- West Phoenix
- Grand Avenue
- Deer Valley
- West Chandler
- Surprise

Pinal
- Pinal Airpark
- La Palma
- Eloy (Interstate 8 / Interstate 10)
- Maricopa / Casa Grande
- Magma Rail Road

Pima
- Tucson International Airport
- North Tucson
- Marana
Focus Area Evaluation

Evaluation elements

Labor Force
Land Use
Land Ownership
Location Typology
Freight Generators
Freight Activity
Proximity to Markets

Transportation Characteristics
Economic Development Interests
Prior Planning Efforts
Incentive Programs
Emerging Project
Overview Proximity Map
Next Steps to be Successful
Typologies

Purpose

Understand how any site could contribute to the “Big Picture”

Determine the majority use development type for particular sites

Understand the requirements of each typology to prepare a phased improvement plan for each site

Integrate regional recommendations & planned improvements into a business plan or funding strategy
Freight Focus Area

Typologies

Four typologies based on opportunities

**Import Center** to receive imports and redirect goods to local and global markets

**Manufacturing and Local Distribution Center** to produce goods for global market and/or distribution to local markets

**Mixing Center** to store, consolidate and/or redirect domestic and import goods for distribution

**Forward Distribution Center** to serve as a gateway for distribution to other regional markets

Typologies work within a regional supply chain system
Focus Area evaluation helped identify freight typologies present in Sun Corridor

**Maricopa**
- Phoenix Mesa Gateway
- West Valley
- Discovery Triangle
- West Phoenix
- Grand Avenue
- Deer Valley
- West Chandler
- Surprise

**Pinal**
- Pinal Airpark
- La Palma
- **Eloy (Interstate 8 / Interstate 10)**
- Maricopa / Casa Grande
- Magma Rail Road

**Pima**
- **Tucson International Airport**
- North Tucson
- Marana
Import Distribution Facility

Purpose
Commonly the first start for goods
Unloads containers/trailers, redirects goods to precise markets in demand
Preferably near port or border

Key Criteria
Proximity to border
Proximity to rail & highway system
Can benefit from air cargo
Freight Focus Area
Tucson International Airport

Key Opportunities
Leverage proximity to Nogales Port of Entry
Connect I-10 and I-19 with an East-West freeway linkage
Target investments to accommodate and compliment Port of Tucson
Establish and brand an intermodal logistics and intermodal hub for the Sun Corridor

*Under current trends, no new industrial space would be required for the next 10 years and only 500 to 1,000 jobs would be created*
Manufacturing & Local Distribution Facility

**Purpose**
Production for global market and/or distribution to local
Interacts with border for supply and distribution
Benefits from surrounding population & commercial operations

**Key Criteria**
Anchor market
Requires skilled labor
Proximity to interstate and multimodal transport
Local distribution serves adjacent retail & business
Freight Focus Area
Phoenix-Mesa Gateway

Key Opportunities

Leverage confluence of air, rail, and highway transportation connections

Preserve and protect developable areas surrounding airport

Connect SR-24 to future North-South Freeway

Provide skills training for technical capabilities needed in manufacturing and logistics

High commercial and industrial vacancy rates provide opportunities to repurpose facilities

Under current trends, no new industrial space would be required for the next 10 years and only 400 to 800 jobs would be created
Mixing Center

Purpose
Mixes domestic & import goods for distribution
Stores, consolidates, redirects goods
Can serve multiple markets

Key Criteria
Proximity to major highway interchanges
Land intensive for storage
Enroute to markets served
Freight Focus Area
I-10 and I-8

Key Opportunities
Preserve and protect developable areas surrounding optimal transportation assets (I-8 and I-10)

Promote industrial and freight uses in proximity to key transportation confluence

Identify opportunities for lands with additional rail spurs

Under current trends, 900,000 sq ft of new industrial space could develop over the next 10 years – only 5 to 10 new buildings
Forward Distribution Center

**Purpose**
Focuses of goods movement to the west and north from the east and south
Located at west gateways
Benefits from local market ("most forward western market")
More affordable to serve west

**Key Criteria**
Proximity to west markets
Proximity to major highway interchanges
Cross-dock truck-to-truck transfers
Key Opportunities

Expand areas for commercial and industrial around major transportation infrastructure

  Reevaluate areas designated for future residential uses

Preserve truck routes with existing and proposed freeway access

Support rail connections to promote efficient transportation of goods into and out of the area

Leverage access to available skilled labor

Under current trends, up to 620,000 sq ft of new industrial space could develop over the next 10 years, generating only 600 to 1,200 jobs
FIVE-POINT PLAN
Toward Realizing the Freight Framework

Darren Henderson
Senior Planning Manager
Recommendation #1

Coordinate regionally to position and market the Sun Corridor for freight related economic development

Coordinate freight transportation, land use, economic development and marketing to implement the regional freight framework

Emulate coordination and ‘one-stop shop’ approach successful in other regions

Build upon existing organizational frameworks

Clarify existing and future roles of related entities
Recommendation #2

Establish a Sun Corridor Freight Development Zone special land use designation

Strengthens general plan designations to establish consistent region-wide protection for key areas

Land use/zoning overlays can address current limitations and ensure adequate preservation for land in key areas

Incentives and other benefits can be tied to zones
Recommendation #3

Implement strategic transportation improvements to support efficient freight distribution

Update and expand regional and statewide plans to enhance infrastructure for freight movements

Define truck route networks to be inclusive

Prioritize investment on transportation infrastructure that accommodates goods movement, particularly in freight focus areas

Continue to invest in border crossing facilities, technology and staffing to maximize efficiency and safety at Arizona crossings
Recommendation #4

Assist municipal governments with related amendments to public policy

Provide guidance to municipalities during the development of general plans and capital improvement programs

Preserve areas most appropriate and advantageous for freight uses

Seek strategies to better integrate freight related land uses and transportation

Support the repurposing of existing unutilized and underutilized buildings to serve supply chain purposes
Recommendation #5

Prepare conceptual business plans for specific freight related opportunities

Identify specific sites with Freight Focus Areas, including new development and redevelopment

Identify Focus Area market opportunities within the context of the regional framework

Ensure highest and best use based on market analysis

Determine economic gap, if one exists, to better understand needs for incentives and funding contributions
# Five-Point Plan

1. Coordinate regionally to position and market the Sun Corridor

2. Establish a Sun Corridor Freight Development Zone

3. Implement strategic transportation improvements

4. Assist municipal governments with related public policy

5. Prepare conceptual business plans
Freight Framework

Next Steps

Develop topical white papers to further investigate and elaborate on key recommendations

- Better understand existing organization structures, framework, opportunities and limitations
- Evaluate best practices

Provide specific recommendations for action

Regional Workshop/Retreat

Discuss White Papers
Determine Next Steps

March 6, 2013
DISCUSSION
With the Freight Team

Tim Strow
Joe Bryan
Darren Henderson
Tom Hester
Ryan Cook
Kristin Bornstein
Five-Point Plan

1. Coordinate regionally to position and market the Sun Corridor
2. Establish a Sun Corridor Freight Development Zone
3. Implement strategic transportation improvements
4. Assist municipal governments with related public policy
5. Prepare conceptual business plans