Considerations for CEDA: OBOT and OGRE
as of April 19, 2012

Tentative Conclusion

As of this draft report, the preliminary conclusions are:

- The economic prospects for the business that might be conducted using the OBOT and OGRE facilities are limited and fragile. For the City of Oakland to expect a steady, sufficient income from tenants/users of such facilities and services is questionable.
- More will be known after further investigation of the timing and content of the business opportunities. This will be pursued in May 2012 and is highly dependent on the cooperation of others.

Background

The City of Oakland expects to become the owner, but not the operator, of new facilities that will occupy the space presently owned and operated by the Port of Oakland in the new, West Oakland Gateway development. In particular, the facilities that are the topic of this report are what are presently known as Wharfs 6-1/2 and 7 plus the railroad right of way currently known as the Oakland Terminal Railroad (OTR) spur between Wharfs 6-1/2 and 7 and a) its rail connection with the Union Pacific Railroad (UPRR) and b) to/from a proposed new rail yard (not yet named) to be constructed by the Port of Oakland (Port) as part of the site of the former Oakland Army Terminal as recently acquired by the Port.

Five parties have created a development project for the space in West Oakland. The project is known as West Oakland Gateway with Oakland Global as the trade name for the activities on the site, and the project participants are known as the CCIG Team. They include California Capital and Investment Group (CCIG), the City of Oakland through its Community and Economic Development Agency (CEDA), the Port of Oakland (Port, also technically a City of Oakland department), ProLogis (formerly AMB), and Ports America (PA). Concurrent with this development in the West Gateway region of the City, the Port and PA are implementing a complimentary development at the Port. Hence, the CCIG Team development (Oakland Global) and the Port's development are interdependent including a proposed, new (unnamed) rail storage yard on the Port's property. As for the portion being developed by the CCIG team, Oakland Global, the two key components that are the topic of this report are the facility at Wharf's 6-1/2 and 7 to be known as Oakland Bulk and Oversize Terminal (OBOT) and the switching railroad to be known as Oakland Global Rail Enterprise (OGRE). Apparently, CCIG's business model for both OBOT and ORGE involves hiring management (as either employees or independent contractors) for both enterprises. Apparently it has already selected advisors and/or companies to provide the management of these services e.g. Stone, IRC, HDR, Kinder Morgan, etc. Similarly, apparently CCIG and its advisors have made some inquiries and maybe some commitments to such manager/contractors.

The services that might be provided by OBOT and OGRE could be import, export, or domestic. Domestic includes either to/from a) U.S. states and territories that are off-shore, accessible by a deep sea ocean carrier operating either barges or deep draft vessels, or b) states that are

accessible by coastwise barge and vessel services. The presumption here is that only international (export/import) cargos will be involved due to the OBOT facility having deep-draft, deep-sea capability. There will likely be opportunities for domestic services, too, but those are not contemplated here, at this time, because such is not the stated purpose of Oakland Global.

CEDA has asked The Tioga Group, Inc. (Tioga) to provide this report as its assessment of the business prospects for OBOT and OGRE, a market overview. The scope is to provide a very broad, but not deep analysis, for the purpose of isolating factors that are a threat to the success of OBOT and OGRE and which may require additional analysis. Tioga's scope is to do this without creating new data or analyses but with the cooperation of the CCIG team as protected by a Non-Disclosure Agreement (NDA).

Analysis

There are a great many topics that can be covered. There is a need for a framework for the analysis. The framework is three-fold:

1. How the underlying customers that might use the services of OBOT and OGRE elect to manage their supply chain and global trade business.
2. How the service providers might elect to manage the individual activities that when linked together provide the activity chain of events that the underlying customer elects to buy (outsource) to implement its supply chain and global trading business.
3. Outside factors that might impact the success of either the underlying customer(s) or the service providers.

Clearly these must be compatible, but the selfish objectives of each create a tension that results in a commercial transaction. Even more importantly, when each of the activities in the supply chain are conducted by separate, but hopefully coordinated, parties to provide a through service, the self-interests of each party can interfere with each other and with the objectives of the customer. Such risk of sub-optimization by each contracted service provider can make the businesses unsuccessful from either a service performance outcome and/or a profitability outcome.

Also, this can be divided between generalities of which the proposed project is just one example and the specifics of a instant opportunity. Starting with the generalities.

Customer Orientation

Each commodity that might flow through the OBOT with the assistance of OGRE will have its own characteristics. The key characteristic is: who is the customer (the beneficial cargo owner, BCO), and what is it that the BCO wants to achieve.

Because the BCO is in the business of international trade, the sophistication of it global trade management and its supply chain management is critical. Each potential BCO will come with its own characteristics. Each potential service provider (vendor) will come with its ability to assess the quality of the BCO's global trade management.

Until the BCO's are known by name and reputation for their quality of global trade management and supply chain management, much is speculative. However, it is in the best interest of CEDA

to understand how well, or poorly, the CCIG team understands the demands and sophistication of each BCO.

BCO's will be keenly interested in assessing the competence of the management, service performance, facilities, and reputations of the vendor's that it hires including those that it might provide itself. In particular, it will be difficult for BCO's to forget the history and reputation of the Port of Oakland when it was responsible for the activities (or lack of such) at Wharfs 6-1/2 and 7. It has been 20-50 years since the Port provided such facilities and services, and when it did, the underlying customer (BCO) tended to be the military. Hence, to most/all of current prospects for services at Wharf 6-1/2 and 7 the reputation of the Port's provision of such services is antiquated, sketchy, and generally not consistent with what might be required now. This past reputation is not a positive for future service providers and the Port's new, unique relationship with CCIG and its contractors/employees.

Some BCO's will retain the services of outside third parties (3PLs) to provide some or all global trade management services and/or supply chain management services. This can be very favorable to or an Achilles' heel for the BCO. Most BCO's have as core competence production of a product. Many fewer have any competence at creation of a marketplace for a product, and/or management of a series of contracted service providers. Particularly in international trade as opposed to domestic commerce, core competence is usually far less at U.S. based producers. How something is done in domestic, or even North American, commerce rarely is a qualification for doing so elsewhere in the world.

3PLs work for the BCO. As such they tend to obfuscate the situation. It is in their best interest to insulate the BCO and the service providers (carriers). They are always looking for the better deal; hence, they seek price reductions and alternative service providers. Also, they might tend to stretch out cash flow and obscure the profit and competitive conditions faced by the BCO's product and internal finance conditions. They prefer to leverage the leg of movement that involves the most absolute dollars, usually the international water carriage leg.

The key question is if the BCO will find value in what OBOT and OGRE offer. The nature of the commercial arrangements and the supply chain activities between the producer of the goods to be shipped and the receiver of those goods needs to be known. Once known, what OBOT and OGRE can offer can be better evaluated.

For this report, the point is: While Tioga is not privy to all the qualifications of all personnel on the CCIG Team, Tioga does not see anyone with sufficient skill on this topic. What it is that the CCIG Team states that it wants to do may or may not be of value to the customers.

Supplier Orientation

Here is a simplified activity chain that would include services provided by CCIG at Oakland Global.

The following activity chain example is for quantities of product (lading, shipments) that utilize full ship, full unit train, full carload, and full truckload sized shipments. It presumes an order quantity by the receiver that will maximize the full gross weight of the equipment involved in each leg of movement. It highlights the locations when and where services have to be performed including where shipments will come to rest (dwell) awaiting the next movement and

accumulating inventory to efficiently load the capacity of the next leg of movement. This is an export example; the obverse is an import case.

Step	Location	Activity	Notes
1 – Production	Origin plant	Create shipment	
2 – Load rail car(s)	Origin-rail siding	Create rail car load	
3 – Rail switch	Origin	Create outbound train	40-100 cars in unit train
4 – Train departure	Origin to connection point	Departure	Short line move to linehaul railroad
5 – Rail connection	Near origin	Disconnect switch engine; connect to over the road locomotives and crew	If no switching is required, linehaul engines/crew may pick up at origin siding
6 – Rail linehaul	Over the rail	Long haul trip; may require exchange of crew and/or engines	Activity and counts depends on distance involved
7 – Spot cars in train at destination storage yard	Rail storage yard *(Port of Oakland)*	Road crew positions inbound train on storage siding	If properly configured, road crew can take train directly to unloading site
8 – In transit storage	Rail storage yard	Optional service depending on circumstance	May occur awaiting capacity at storage at receiving point near marine terminal
9 – Disassemble inbound train *(OGRE)*	Storage yard to receiving location	Move cut of railcars from storage yard to siding at marine terminal	Number of cars in a "cut" depends on the configuration of the receiving site; number of cuts depends on number of inbound cars
10 – Switching empty *(OGRE)*	Receiving location to storage yard	Return empty cars to storage yard	Make ready for return of empty cars to origin
11 – Unload inbound rail car *(OBOT)*	Receiving location *(OBOT)*	Relocate the contents of the car (lading) into a storage site (bin, silo, etc.)	Dwell point to accumulate enough volume to fully load outbound ship
12 – Transfer lading from storage to ship *(Wharf 7)*	Receiving bin into ship's hold	Relocate the lading into the ship	Can be a continuous flow process or a set of repetitive moves depending on type of loading facility
13 – Ship departure	Origin wharf to destination port	Long haul trip to foreign port	Activity and counts depends on distance involved
14 – Ship arrival	Foreign port	Relocate the contents of the ship (lading) into a storage site (bin, silo, etc.)	Requires storage site to be available for use
15 – Ship departure	Foreign port		Ship released for whatever it is to do next
16 – In-transit storage	Foreign port	Optional service depending on circumstance	May occur awaiting capacity at storage at receiving point near marine terminal
17 - Transfer lading from storage to barge, truck or	Near or at foreign port		Mode of choice is dependent on delivery arrangements

rail			
18 – Load lading into equipment for next move	At storage site	Create shipment	May involve additional, multiple steps depending on circumstance
19 – Line haul trip	Storage site to customer site	Move lading to customer	May involve additional, multiple steps depending on circumstance
20 – Unload at customer site	Customer site	Deliver the lading	Should be last step in activity chain

This twenty step process can be further sub-divided depending on what is to be described. The steps conducted by local firms (Port, OGRE, OBOT) are a minority of the activity, capital, and expenses incurred.

The companies and individuals on the CCIG Team are going to need to understand the complete activity chain and how their piece fits with the whole and the other pieces. They need to be familiar with the trade-offs rather than just their local activity and concern. In particularly, their personnel will have to know how to assess the points of view and demands of the BCO and its customers, agents, and 3PLs on the topics of global trade management and supply chain management. In particular, they will have to be experienced in understanding how their step in the activity chain is impacted by and impacts on upstream and downstream suppliers. They will have to know how to make a profit despite having to conduct operations and customer service efforts that they might otherwise not have to conduct or participate in. They will have to be capable of subordinating self-interest to the greater whole and the BCO's future success.

Starting from scratch with no benefit from the Port of Oakland's past involvement in bulk and oversized cargos will present a huge, expensive hurdle to making their own reputation with its customers and in international trade in general. They will have to be low cost providers of a superior service while shouldering the burden of the high cost of new assets. This means that they will have to have exceptional efficiency, high labor productivity, and low input rates for labor and management. It means that they will have to attract a significant amount of business to justify new handing equipment and site improvements. New assets can be a great productivity advantage, but they will have to be highly utilized. That places an incremental burden on finding business and satisfying new customers.

For this report, the point is: while Tioga is not privy to all of the skills of all personnel on the CCIG Team, Tioga does see people with experience limited to only local, provincial knowledge and concerns as opposed to an ability to see the entire activity chain and just how it can offer value to the customer. So far, the stated, expected services are from the perspective of a service operator, not the customer. Just how valuable larger shipments might be is speculative. The cost savings of fewer ocean trips to move a given amount of tonnage seems compelling, but that gain has to be traded off against the total logistics costs incurred to accomplish same. And, the value of that gain has to be in the eyes of the BCO and its customers, not the operator of such services.

External Factors

This is a very long list, not fully enumerated here, of conditions that prevail in international trade. They run from the very political and self-serving considerations of local taxes to

international relations between countries that may have a history for aggressive trade wars. Some of these are:

- Dealing in worldwide commodities. So-called "place utility" is a key consideration. The availability of an alternate supply of a commodity will always create a cap on the delivered cost for fear of losing the movement to an alternative source location even if the same BCO. It also involves the risk of "missing the market" whereby the local price/sale of the goods involved is lost.
- Vulnerability to international rules and regulations. Understanding and complying with multitudes of foreign (and foreign language) laws, rules, regulations, and interpretations is a special skill that requires constant, on the ground updates and advisories.
- Vulnerability to international relations between countries ranging from armed conflicts to retaliatory tariffs and abusive administrative practices. The need to have a local, connected agent that will have to cope with local conditions, to and including bribery.
- Awareness of the availability of capacity of the correct/best type of ships to make an international voyage. For instance, for lack of participation in bulk and oversized cargos at any port in Northern California, the lack of such ships arriving in northern California ports inhibits the availability of capacity for exports.
- Similarly, prices for ship capacity can fluctuate wildly based on international conditions and to the point that the ship cannot be procured on either a long-term contract rate or a daily spot rate at a price that allows a profit on the sale by the BCO.
- Participating in an industry that because of a multi-step activity chain has a history of cross-subsidizing local services with the "big money" of operating the ship.
- Not being able to access project financing due to international monetary controls; and/or having to rely on an agency of the U.S. government to secure competitive terms for its assistance in obtaining financing through some agency such as the U.S. Import-Export Bank.
- U.S. politics, as examples:
    - The current emphasis on the economic benefit of exporting locally produced goods is politically popular; such is not always the case.
    - Conversely, federal funding for channel dredging is fraught with personalities and national budget complications much less local biases.
    - The Jones Act that requires that transportation by the water mode between two U.S. ports must move in ships built in the U.S. and crewed by U.S. citizens is simply so costly (rates, not efficiency) that it is a protected business where entry is virtually impossible and certainly impractical.

For this report, the point is: this will be a business dependent on favorable terms which are completely out of the control of the principals involved.

Economics of scope (reach, by mode)

Moving to the specifics of this opportunity, the concept of geographical scope is exceptionally important. It is the most basic measure of how a given location can be competitive based on the mode of transportation involved and the local geography. It is intuitive once explained. But, it must come from an operator, not a customer or third party provider.

Basically it is that distance dictates mode choice. Here is it is based on SF-Oakland Bay Area ports with deep sea services.

- TRUCKS moving full (by either gross weight or cubic content of the trailer) will make the intra city, intra-regional, and interregional movements/trips/shipments/lading for a radius around the port as follows:
    - Within 5 hours driving time in a day. In the Bay Area, that is north to about Fortuna on USH 101, to about Redding on I-5, to about Susanville on SR 36, to Sparks NV on I-80, to Visalia on I-580/I-5/SR 99 and to Santa Maria on USH 101 south.
    - Beyond 5 hours but not more than 11 hours driving time over night. For the Bay Area, that is Crescent City on USH 101 to the north, Grants Pass or Klamath Falls, OR via I-5 north, Lakeview, OR on USH 395 north, Battle Mountain on I-80 east, Inland Empire on I-5 south and San Fernando Valley on USH 101.
    - The things that control the distance are elevation/grades and traffic congestion.
    - The one thing that overrides is if there is competitive capacity available that prefers to return to another point. The best example is in the Fresno and San Luis Obispo areas there are trucks that want to get back to Los Angeles, hence the goods/shipments that would otherwise come to the Bay Area are, instead drawn to the south.
    - Of course all these distances are really bands and can be greatly exceeded when transit time is so critical that a rail alternative either is not sufficiently fast, sufficiently reliable, or even exists.
- RAILROAD either as a single carload or a unit train in a band from beyond the 11 hour driving time reach of a truck to anywhere in North America, except for three conditions:
    - As a practical matter, the only railroad is the UPRR. This is because BNSF's local service, particularly at the Port of Oakland is conditioned upon using UPRR trackage.
    - When far enough east, north and south that it is fewer rail miles to an alternative port, then the Ports of Oakland, Stockton and West Sacramento are disadvantaged. Specifically as regards UPRR routes, these are north of Klamath Falls, OR (from whence the Port of Portland OR is closer), east or south of Salt Lake City, UT (from whence the Ports of Hueneme, Long Beach, Los Angeles and San Diego are closer), east of Bakersfield, CA and south or east of Los Angeles, CA (from whence the same four southern California ports are closer. This is controlled by the routes on the UPRR route map.
    - When transload from local truck to railcar is practical such as hay pellets from Southern Idaho to the UPRR at Winnemucca or Wells, NV

Stated differently, for rail service the Port of Oakland has no natural advantage over any other deep sea port except maybe it does versus the Ports of Stockton and West Sacramento when the commodity involved is sufficiently dense that the depth below mean low tide on the Sacramento Ship Channel and the Stockton Deepwater Channel can be exceeded with a ship of sufficient draft and sufficient payload. It is in fact even less competitive because the BNSF Railway (BNSF) is fully competitive at Port of Stockton, unlike at the connection to the OGRE at the Port of Oakland.

For this report, the point is: This exceptionally important, and Bay Area ports are generally at a disadvantage relative to other ports on the west coast of North America (NAWC).

Economics of scale

Size or scale can be measure in a number of metrics. For practical purposes here, the four involving the OBOT site that are most important are operating hours of the day, length of the wharf, acreage of usable backlands, and interchangeability of loading devices and storage space. The two involving the OGRE are switching moves required and speed of dumping a railcar load. The count of switching movements gets complex. Hence, a comparison to optimal helps.

For unit trains of bulk commodities if the rail switching service to/from the OBOT wharfs were ideal it would have two characteristics. One would be that for bulk commodities the train movement would involve a large loop track over which the individual railcars (whether in a mixed train or in a unit train) could be push over the unloading/loading site and each dumped/filled in a single action. Hence, the time OGRE spent switching and spotting cars would be minimized. Yes, this would require unloading/loading equipment on the wharf that was exceptionally efficient, too. Also, it would require a sufficiently long lead track that could hold a whole unit train while it awaits shuttle to/from the OBOT site. Instead the planned OGRE switching activity is much longer in cycle time and the lack of a tail track extending west from the OBOT shed on the wharf is a severe limitation as to the location of the dumping/filling equipment. Subject to more information it would appear that such a tail track is not contemplated and if it were to be added could be no more than ten cars in length thereby limiting the number of cars in a cut to be shuttled by OGRE between the dump site and the new rail storage yard being erected by the port to about ten in a cycle. This contrasts with coal and grain trains of up to 121-125 cars in length being handled in one move with road locomotives only (no local switching engines but with local crews. The activity of accumulating bulk inventory in an on-dock storage device (bin, silo, elevator, even a pile on the ground) prior to loading for export or after unloading for subsequent movement beyond (import) is known as dwell. Dwell is an inventory buffering technique that must be available alongside the ship. It serves to minimize the time the ship is at the wharf, hence minimize the cost of loading/unloading the ship.

For unit trains of wheeled vehicles, the ideal configuration likely would be a set of short stub end tracks, maybe 8-10 of them that could hold 6-10 railcars each so that the wheeled vehicles on the railcars could be unloaded (export) or loading (import) from auto rack rail cars through the end of the cars off the back end of the last/first car with a set of vehicle ramps permanently in spot. If the wheeled vehicles were oversized, then they would not be capable of moving over a bridge between cars. Hence only the first/last car could be place on the last car spot position on each of the 8-10 stud end tracks. But, more importantly, there would be a need for considerable acreage on which to place the wheeled vehicles (of whatever type) awaiting enough for a full load for a roll-on, roll-off (RO-RO) vessel that loads/unloads by driving the vehicles onto (export) off of (import) the decks in the ship. Two points are important, there is not sufficient acreage at OBOT for this activity unless there was no other activity occurring and one land of Burma Road could be available for parking vehicles. The activity of accumulating vehicles prior to loading for export or after unloading for subsequent movement beyond (import) is known as dwell. Dwell is an inventory buffering technique that must be available alongside the ship.

Managing the interchangeability of the loading/unloading devices and the storage areas is exceptionally management intensive. Vastly over simplified, it creates better asset utilization and space utilization (economics of scale). Or, if mismanaged, the lack of utilization can be the death kneel for the operation due to service and cost consequences. Mismanagement of space commitments is not ever acceptable. It is must be a core competence of the terminal operator and its ability to influence the parties in the activity chain. More space helps.

Hours of operation should be 24-7 availability and willingness. The real question is at what cost? This will be dependent on the terms of agreement with the stevedore contractor and its ability to negotiate a cost competitive rate for labor and hours.

For this report, the point is: This site is not ideal; the cost of operation may be excessive. First, it must be simulated in advance by a competent model and modeler that will also be the contract operator. However, the cost must not be confused with the price for the service. Price management will also be dependent on competitive alternatives. Price must flow from the value added; cost competitiveness must be a constant focus including continuous improvement due to cost avoidance and greater efficiencies. Customers will respond to unit costs not to operator economics. Further that price cannot be based on some existing terminal tariff. It must be a customized contract for terminal services (probably bundled with the rail switching services) for each customer and each movement for each customer. It does appear that some members of the CCIG Team have some of the skills needed for this.

Relative economics

There are a multiplicity of considerations across a broad variety of options.

Cost by mode

The relative cost by mode makes a significant difference in the options available and attractive to the BCO. Vastly oversimplified, it helps to realize that cost per ton-mile for a truck is about 10 times that for a rail unit train, and in turn, for a rail unit trains is about 10 times that for ocean bulk carriage. That is, for a cost of 10 cents per ton-mile and truck move can be done by rail for a penny a mile ($0.01), and a ship move can be done for a mil a mile ($0.001). This comparison presumes a length of haul and a weight per shipment that is efficient for each mode.

Because of this, major import and export moves of commodities in bulk, whether dry or liquid, will minimize miles by truck relative to rail miles and will minimize miles by railroad relative to miles by ocean carriage. Stated another way, truck will be cost effective only on shorter moves, say 250 miles or less, rail will be efficient for moves over 250 miles but not if a water alternative is available, and ocean carriage, by definition, can only operate on deep sea water.

Service offerings by port

Hence, the selection of the port of embarkation for an export move (and for debarkation for an import move) will be heavily biased toward maximizing the miles by water and minimizing those by truck. The practical result is that each port has its “natural” geographical area (or “catch basin”) which is sufficiently close by as not to overlap with that of the next most proximate port that can provide the same services. Further, the natural competitive area for a port is governed by being closer by rail than the next most proximate port (that offers that same service).

Knowing the trip mileage involved in a full load shipment and the facilities available at a port defines what the port, in this case, OBOT, can offer and expect to be competitive. In turn, it defines which nearby points might be competitive with OBOT.

Specific ports

As a fast scan across neighboring ports, there are some considerations, but none of these can be generalized until a specific movement is considered.

First, and most importantly, if the commodity involved can be containerized and/or the shipment size is what fits into a container, then the Port of Oakland's container terminals are the most directly competitive in the natural geographic area. Similarly, for movements from the intermountain area and each of the Rockies, the Ports of Long Beach and Los Angeles are most competitive, with the Ports of Seattle and Tacoma somewhat competitive. The Port of Richmond and the Port of Stockton are the two locations most closely located that might be competitive with what OBOT might offer in the natural geographic area. Beyond about a radius of about 250 miles, the Ports of Hueneme, Long Beach and Los Angeles will be competitive. However, none of these five currently can offer all of the services that OBOT has planned. Nonetheless, each of them is capable of modifying most of their service offerings to duplicate or almost duplicate those of OBOT. The Port of San Francisco is a special case for two reasons. Yes, it will be competitive with OBOT for origins/destinations in the City and Marin, Santa Clara and San Mateo County. But, also, like the Port of Oakland, is has a history and reputation in the trade that is not conducive to the market accepting it as a competitive alternative.

For this report, the point is: competitive alternatives will vary by specific opportunity relative to the characteristics of other ports. Therefore the CCIG team will have to be exceptionally aware of what competitive alternatives exist and how to cope with each at a very intense level of detail.

Probable movements by commodity

Existing movements

Already moving through neighboring ports might be commodities/shipments that might be diverted to the OBOT alternative. Of these, and ignoring Bay Sand, the only existing movements that might be of interest are as follows, Via Port of Benicia – petroleum coke

1. Via Levin Terminals at Richmond – petroleum coke and iron ore
2. Via Richmond, Levin Terminals at Richmond: liquids such as petroleum, petroleum products, chemicals, vegetable oils
3. Project cargos via any port, such as: steel, aggregates, cement, gypsum, bauxite, bay sand

It is easy to eliminate most from consideration for one or more the these reasons:

1. They are moving via private, purpose-built terminals. While one of them might someday be interested in relocating to Oakland, any one of them would displace OBOT in its entirety.
2. Petroleum coke is of such low value and so little value in its world market it will likely always move from the nearest, capable port.

3. Project cargos move only in response to specific projects, usually new construction, usually via the port nearest the construction site, usually requiring substantial acreage for on-site storage, often based on government funded projects such as highway replacement, and therefore are temporary and variable in nature.
4. Some fraction of the movement, such as bay sand, is by barge for such a short distance and to so many destinations that it cannot justify deep draft vessels.

That leaves only the iron ore moving via Levin Richmond terminal which started in 2010. Apparently that is a unique move, and it has been targeted by OBOT for further consideration. Public information about the move is limited except that it originates at a mine in Utah, loads primary at the Port of Stockton but too heavy for the depth of the Stockton Ship Channel. Therefore, the activity of at Levin Richmond is solely to top-off to full capacity the ship that was loaded for export at the Port of Stockton.

Potential movements – wheeled vehicles

Wheeled vehicles are the most obvious potential. Some, which are foreign built autos, currently are imported via Benicia and Richmond. The acreage required is substantial; the OBOT site is insufficient. Additional movements of set-up, imported autos may be possible, but the OBOT site would be a candidate only for very limited quantities that were willing to be moved off-site for dwell for inventory management purposes. Further, most likely these would have to be diverted from other ports of entry, which is not probable.

From time to time the military has moved small vehicles (auto and truck sizes) through the Port of Oakland, either export or import. These are usually in response to emergencies, and traditionally they have moved via Wharf 7. To expect these movements to return is speculative for many reasons. Chief among these is that the military now looks to move them in containers, not as loose, break bulk or deck cargo.

Potential movements -- over-dimension vehicles and machinery

This has potential in that it can be compatible with the OBOT facilities particularly if moving via a RO-RO (roll-on, roll-off) vessel. However, movements are sporadic at best. Heretofore, they have been able to be accommodated at other local ports, primarily Richmond, Stockton, and West Sacramento. If there are natural advantages to divert these to Oakland, such advantages are not immediately apparent. The natural geographically markets for such movements, whether import or export, are high constrained geographically.

Potential movements – other

These opportunities await a meeting with the CCIG team.

Potential movements – generally

The greatest impediment is the lack of any known points of production or consumption of such commodities within the logical geographical catch basin for the Port of Oakland and OBOT. Agricultural machinery, solar energy equipment, and alternative power equipment are only possibilities, and all would more logically move via the Ports of Stockton, and maybe West Sacramento, if produced for export or received as imports for local installation.

Any one specific facility is entirely dependent on what happens locally. National and regional forecasts for commodities, capital goods, and consumable are almost meaningless for a given facility. Rather, there has to be a local, major production, consumption or distribution facility that opens and thereby permanently relocates origins and destinations for goods (so-called trip generators). None are known to be expected within the confines of the logical market area for OBOT. To expect OBOT to be able to compete effectively for a site that is within the logical market area for another port is to invite a competitive fight. Therefore, such is rarely sufficient to justify the capital for a new facility.

Exception are always a possibility, but there is no known prospect.

For this report, the point is: Expecting to divert existing movements is usually difficult. Rather, for example, expecting the iron ore movement to relocate to a port closer to the Utah mine is possible. Expecting to create wholly new movements is not logical even if highly desirable, and such would be subject to significant competitiveness from other, nearby ports.

Competitive analysis and reactions

Much of what is in this report in the sections above bears directly on the competitive considerations for the future prospects for the OBOT and OGRE. This section is more of a recap.

OBOT and OGRE competitiveness

To expect to attract an import or export move through the OBOT facility based solely on the features and costs at OBOT is much too limited a view. Yes, the facilities must be cost competitive by having exceptional productivity and low cost for inputs. But, for even the best facility, this alone is not enough. Similarly, OBOT only needs to be better than the next best option if the customer has predetermined, for whatever reason, that it is going to route the shipments involved through the Port of Oakland. Hence, the design and input prices for activities at OBOT are critical, but not until the customer's supply chain has selected import/export via a Northern California port.

For this report, the point is: It is the customer's supply chain management that will control the selection of a port presuming the port has the required services. Once the port of embarkation/debarkation is determined, then the price for handling at that port becomes critical. The price for the requisite services will be determined by total logistics market considerations, not the operators' cost levels.

Other options

Other possible ports will vary based on the specific commodities, shipment size, services available, and a host of other factors. Lacking the possibility of providing requisite services does two things. It temporarily narrows the options. However, in the longer term, it opens the door for the rejected port to modify its services and facilities such as to become the new, preferred gateway. If and when such a site elects to make the investments necessary, it becomes favored and diversion from the present port/gateway become inevitable. This leaves the first port with its fixed costs and no (or less) business.

For this report, the point is: It is important to have the best price and service for the long term before committing long term capital and resources.

Recommendations

At this stage of investigation, there are two major unknowns that must be further investigated.

1. The first is the long term competitiveness of each product to be imported/exported. Many of the factors that can create or impede a specific commodity movement are beyond the control of the BCO, its carriers, or both.
2. The price for the service has to initially be sufficiently attractive relative to the price via other gateways and services. This, also, has to be determined for each and every commodity in each and every activity chain. It has to be determined for each and every step in the applicable activity chain.

There is a third factor that must be considered. It is prospect that some alternative routing will become competitive if and when existing impediments get cured.

As for the specific of unit trains of iron ore, it is possible that to divert the move from the existing routing will be able to be done. But, first a detailed evaluation of the proposed new service but be modeled including both operating costs and capital requirements. The existing proforma functional Revenue Model for Global Oakland's OBOT and OGRE enterprise is not sufficient. Instead, an activity based costing has to be modeled for the specific move, including comparative capital costs. This has to be compared to what the BCO is currently paying and what price its current contract to supply product will tolerate. Then a contract for services has to be executed that protects the service providers even though it risks no product ever moving due to conditions beyond the control of the parties.

Tioga's experience is that ventures such as OBOT and OGRE tend to be too optimistic. The batting average for securing business is rarely better than one in ten because competitive conditions and market conditions are too frail and commodity values too cheap. Of the ones that actually start to move product, only one in another ten result in movements as large as full unit train volumes. Such large movements tend to want/need dedicated facilities thereby negating the ability of the service provider to obtain better asset utilization across multiple customers.

Hence, obtaining a firm commitment of patronage is mandatory, but nearly impossible before committing to erecting facilities.

Then, even when all operates well, a certain percentage fail due to mismanagement, usually over capitalization, or inflexible terms, or wrong location.

Finally, the true size and characteristics of the market for overweight, deep draft services at the Port of Oakland are not known. There is lots of talk, but only one known, current movement is a candidate. It is difficult to find candidate movements. Each commodity movement is its own story. For instance, OBOT and OGRE facilities are not likely to attract overweight containers away from existing container terminals.