

Field Guide Consulting

Update to Fiscal and Economic Impact Study

Covering Two Proposed Projects in Vallejo, California:

The VMT Project and the Orcem Project

Prepared by:

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February 25, 2018

UPDATE TO FISCAL AND ECONOMIC IMPACT STUDY

Orcem Americas Inc.
&
Vallejo Marine Terminal, LLC

Prepared by

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MEMORANDUM

Date: February 25, 2018

To: Steve Bryan, Orcem

From: Chris Seals, Chandru Swaminathan, Field Guide Consulting

RE: Responses to comments made by KMA on the Field Guide Consulting (FGC) economic impact report dated Nov 2014

The FGC team has reviewed the comments by KMA and provided responses to comments below. FGC has also provided an updated report that follows. The updated report applies equally to both the original Orcem/VMT Project and the Revised Operations Alternative (ROA). The FGC team agrees with the KMA statement that there is no basis to assume that any residential values would be adversely affected by the ROA Project, and state that the fiscal report authors are in agreement. Other specific comments follow below.

KMA Comment 1:

City service costs are not considered. The City can anticipate added municipal service costs such as wear and tear on City streets from Project-related truck traffic.

Response:

While city service costs (such as wear and tear on City streets) were not considered in the FGC report, neither were positive economic and fiscal impacts resulting from increases economic activity arising from vehicle traffic. As mentioned in the FGC November 2014 report, economic impact of trucks movement is not included in the estimates. There are an estimated 209 trucks per day that will move materials in or out of the combined VMT and Orcem site, according to the project description for the Revised Operations Alternative. Economic impact (both positive and negative) due to truck movement is tough to quantify for a variety of reasons, including where the trucks will fill their gas tanks and what impact these trucks will have in terms of wear and tear on City streets. We understand, however, that a detailed Engineer's Estimate has been prepared which quantifies the cost of maintaining City roadways over a 30-year period, and includes an annualized average cost of maintenance. The City's costs associated with such roadway maintenance should be compared with the projected City revenues in the updated FGC report to provide a conservative assessment of the net economic impacts (without the positive economic effects of trucking operations) that will result from implementation of the Orcem and VMT projects.

KMA Comment 2:

FGC estimates 97 direct on-site jobs; however, the 85 jobs referenced in the DEIR (65 full time and 20 part time) is probably a better estimate since it is based on specific operational plans for the Project. This will also result in 10 to 15% drop in wage estimates.

Response:

KMA's comment is based on the incorrect assumption in the DEIR that VMT would generate only up to 45 direct jobs, which combined with Orcem's 40 direct jobs would total 85. However, the VMT Application proposes that 40 individuals would be involved in cargo loading and unloading, site maintenance operations, and administrative duties; in addition it proposes that an additional 19 individuals would be working as truck drivers and rail equipment handlers (for a total of 59 direct VMT jobs). Combined with Orcem's 40 direct jobs, the correct total direct jobs at full regular operations is 99. Based on the June 2017 Revised Operations Alternative submitted by Orcem and VMT, the number of direct on-site jobs will total 99. See updated Table 8 for details.

KMA Comment 3:

Indirect and induced impacts appear to represent County-wide findings despite labeling of support tables that suggests findings are City-specific.

Response:

The model used to estimate indirect and induced impacts is estimated at the county level, however, the majority of the actual economic benefits that occur from this project are expected to occur in Vallejo, and where possible the Vallejo portion of County-wide economic impacts have been segmented and reported. Indirect impact includes economic impacts that arise as a result of the purchases made by Orcem/VMT from local suppliers. It's typical for companies to make local purchases from suppliers that are closest to their site; even though economic impact estimates are county-wide, most local suppliers' revenues are expected to be captured in Vallejo. The induced impacts are similar -- as employees re-spend their earnings, they are most likely to do so where they work and live. Most of the workers employed at Orcem/VMT are expected to be Vallejo residents. As the largest community in Solano County, Vallejo is most likely city within the county to be the primary beneficiary of positive economic impacts.

KMA Comment 4:

The utility user taxes estimate lacks support. The estimate implies utility costs of \$3.3 million per year; however, no source or reference for the utility usage estimate is provided.

Response:

The utility tax estimate is based on the expected utility usage projections, provided by Orcem/VMT and the Tax Rate and Levy. The City imposes a 7.3% utility users tax on charges for telecommunications and video services and a 7.5% utility users tax on charges for electricity usage and natural gas delivered through mains or pipes. These taxes are collected by the utility service provider and remitted to the City. The complete details of these taxes are contained in Vallejo Municipal Code chapters 3.13 and 3.12.

Orcem is a wholly owned subsidiary of Ecocem Materials Limited of Dublin, Ireland. Ecocem Materials was established in 2001 and has been involved in various industrial developments projects around the world. They have manufacturing locations in Ireland, Netherlands and France. The original facilities in Ireland and the Netherlands can produce approximately 350,000 metric tons of GGBS cement per year (the Netherlands facility was expanded to 650,000 total in 2017). The facility in France has a capacity to produce over 700,000 metric tons per year.

Given the company's experience in this industry, Orcem is expected to have good sense of what their utility usage is expected to be with respect to their overall production estimates. There is little independent information available to validate these assumptions and KMA has not provided evidence of any documented contradictory utility costs in their peer review.

Energy costs are the highest single cost in the industry and are managed with significant diligence. While the hardness of the raw material and the product specification in the market may vary slightly from facility to facility, the specific energy consumption of this model Loesche mill (65 kWh per metric ton) is known, so we can very accurately make energy consumption budget estimates.

KMA Comment 5:

FGC has included the full lease payment in its analysis; however, a lease provision provides for an offset for capital improvements that would reduce the payment by maximum of 85%. If the Project is eligible for the maximum rent offset under the lease of \$8 million, the reduced rent would apply for approximately the next 50 years.

Response:

A maximum potential offset has been added to the analysis.

KMA Comment 6:

The sales tax estimate reflects sales occurring throughout the County derived from the IMPLAN model rather than sales occurring within the City of Vallejo and therefore is significantly overstated.

Response:

As mentioned in the assumption section of the report, FGC assumed that only 2% of the sales tax estimates derived from county-wide IMPLAN model goes to city of Vallejo. This includes the 1% that is typical to all local jurisdictions and another 1% from the Measure B passed in 2011.

KMA Comment 7:

Permit fees are included as a one-time revenue to the city during the construction phase. However, permit fees represent a fee for service tied to the city's costs of providing building department and other services during development of the project and does not represent a net revenue to the city.

Response:

Fees paid to the city are revenue. The city charges permit and consulting fees to recoup costs of providing services. It is unlikely that city operation costs would be reduced if this project did not occur or did not have permit fees. As a result, they are considered to bring a positive fiscal impact. Also, fee revenues generate economic impacts through wages paid to city employees.

KMA Comment 8:

Findings include Phase 2 of the VMT project and would presumably be lower with removal of the second phase which is no longer being proposed.

Response:

Phase 2 of the VMT Terminal has been eliminated from both the original Project and the proposed Revised Operations Alternative, but that has not reduced the annual number of vessels, the number of VMT jobs created, or the quantified VMT Terminal throughput projections documented in the DEIR. The elimination of Phase 2 reduces trans-loading options and operational efficiencies, but doesn't reduce annual terminal capacity.

The elimination of VMT's Phase 2 still requires that rail service be implemented in order to achieve the maximum annual throughput. Therefore, all of the fiscal and economic impacts will occur as documented in FGC's updated report.

KMA Comment 9:

Property taxes are understated due to application of an incorrect City share. The City's share of the 1% general levy property tax rate is 19% (after adjusting for the shift to ERAF). FGC used an incorrect 5.3% share applied to the 1.14% total ad

valorem tax rate including voter approved debt levies. Existing assessed values are included, which would tend to overstate revenues generated by the Project. The indirect property tax estimate is also unlikely and appears to reflect an allocation of a County-wide IMPLAN model result. However, the understated property tax share more than offsets the overstatement in assessed values and the inclusion of unlikely indirect revenues. Property tax in-lieu of VLF was omitted. The Project will generate approximately \$43,000 in property tax in-lieu of VLF.

Response

Revised tax revenues are presented in the updated report.

Other updates

In addition to the matters addressed above, a few other updates are made to the model. When reporting fiscal impacts for the City of Vallejo, a new line item is added that reflects the maximum lease offset which is 85% of the total lease amount in any given year. This figure is reported in Table 6. The offset is a function of the fees and taxes paid in a given year, but the exact tax amounts are not known for some parts of the project (e.g. utilities for the VMT project are unknown and impacts associated with the VMT utilities tax are excluded). To determine the final fiscal impact in a given year, the year's actual lease offset must be subtracted from the total direct, indirect, and induced revenues to the City of Vallejo.

Study Overview

This study estimates the economic and fiscal impact impacts of two proposed projects in Vallejo:

- (1) The VMT Project and
- (2) The Orcem Project,

The VMT Project is a 31.4-acre site whose territory includes a portion of the former General Mills flour plant that was closed in 2004. The VMT Project proposes to re-establish the industrial use of this property through the removal of the damaged timber wharf and new construction of a modern deep-water terminal. The project will also include upgrades to existing trucking and rail connections.

The Orcem Project is a 4.88-acre site that is within the VMT Project area. Orcem California Inc. is a subsidiary of Ecocem Materials Ltd, a European manufacturer of environmentally-friendly cement that is technically known as ground granulated blast furnace slag (“GGBFS”). Orcem is seeking to use the Vallejo site as its first U.S. location, primarily to serve customers in Northern California and neighboring states.

The two projects together offer several benefits including economic, fiscal, employment, and environmental benefits that are estimated to generate the following impacts on the City of Vallejo, Solano County and the State of California (Table 1).

Table 1 Summary Findings: Direct, Indirect and Induced Impacts 2019-2025

Key Impacts	2019	2020	2025	2022	2023	2024	2025
Total Fiscal Tax Revenue Impacts for State and Local Governments	\$886,416	\$587,740	\$903,897	\$1,109,114	\$1,555,847	\$1,997,681	\$2,048,173
Total Fiscal Impacts: City of Vallejo	\$223,938	\$353,091	\$380,992	\$446,462	\$543,488	\$680,344	\$648,303
Total Property Tax Receipts (including land value): Solano County	\$41,000	\$423,771	\$476,859	\$481,760	\$542,198	\$547,099	\$567,245
Total Full Time Equivalent Jobs	168	96	109	83	122	155	192
Average Wages	\$66,184	\$68,809	\$67,942	\$64,584	\$66,828	\$67,964	\$68,652
Total Output *	\$29,659,502	\$16,094,706	\$24,767,907	\$33,016,553	\$46,657,593	\$62,006,986	\$61,961,036
Total Value Added to GDP within Solano County	\$12,546,278	\$7,345,372	\$11,071,113	\$12,513,391	\$16,985,445	\$21,612,083	\$21,716,694
*Total Output reflects business earnings for the two projects, their suppliers, and businesses impacted by induced effects (the re-spending of earnings by employees).							

- Between 2019 and 2025, the two projects combined will cumulatively generate approximately \$9.09 million in receipts to state and local governments through direct, indirect and induced impacts.ⁱ The projects are then expected to generate over \$2 million per year in tax revenue to state and local governments thereafter.
- The City of Vallejo is expected to receive approximately 36% of the taxes and fees paid in the 2019-2025 period. These funds are expected to cumulatively total \$3.28 million between 2019 and 2025.
- Property tax collected by Solano County is expected to total \$3.08 million over the 2019-2025 period. Thereafter, property tax receipts by the County as a result of the two projects are expected to exceed \$567,000 per year. These taxes will also benefit all taxing entities in Solano County including cities, schools, libraries, etc. The City of Vallejo is expected to receive approximately \$829,554 in property tax receipts over the 2019-2025 period.
- The fiscal impacts from the two projects will grow over time. In 2019, the two projects combined are expected to generate \$886,416 in tax and fee revenue for state and local governments, and this amount will increase to reach \$2,048,173 per year by 2025. The City's revenue from the projects will be derived from taxes, fees, and lease revenues. The City's revenue is expected to be \$223,938 in 2019, before any potential lease offsets, which could be as high as \$81,192. If the full lease offset is reached, the positive fiscal impact for the city is expected to reach \$142,746 in 2019. By 2025, when the projects are in full operation, the City's revenue before offsets are expected to be \$648,303. This could be offset by a max lease reduction of \$92,788, resulting in a positive fiscal impact of \$555,514.
- The fiscal and economic **benefits** associated with jobs and spending linked to truck traffic for Orcem/VMT is **excluded** from this report. These impacts would be incremental to the fiscal benefits projected in this study. A separate report, The Lemon Street Engineers Maintenance Estimate (August 31st, 2017), estimates the **cost** to the City for road maintenance, estimating the annual road maintenance costs to be \$69,414. This cost would be offset by a minimum of \$443,759 in direct fiscal benefits and a \$555,514 in total positive fiscal benefits to the City.ⁱⁱ
- In addition to the direct, indirect, and induced jobs that are estimated in this report, the project also has additional employment and job creation potential. At full capacity, over 200 trucks will likely move through the terminal per day, creating additional opportunity for transportation jobs. These trucks will also generate employment through gas fill-ups at Vallejo gas stations (average tank sizes can be 100 to 200 gallons).
- Together, the two projects will support a total of 192 permanent jobs by 2025, including direct, indirect, and induced jobs. Temporary jobs will also be created in the earlier years of the project during the construction phases. Jobs in the earlier years of the project will fluctuate due to construction and project ramp-up.

- Among these jobs are high-paying stevedore jobs for loading and unloading cargo from vessels. In the future, when rail connection is extended, stevedore employment is expected to increase. The operations of the facility are also likely to result in more local employment through consumption of locally-provided services such as security, landscaping, and other services. The average wages for direct employees for the two projects will be approximately \$78,796 per year by 2025. The average wage for indirect jobs created at suppliers will be approximately \$63,802 and the average wages for induced jobs will be approximately \$50,631 per year.
- In total, by 2025, the projects will contribute \$21.7 million in value added to the gross domestic product (GDP) based on outputⁱⁱⁱ of about \$62 million.
- The two projects can also spur additional redevelopment and economic opportunities for Vallejo. They are expected to reactivate the industrial use of this waterfront site that has gone unutilized for nearly 13 years, while aligning with the goals of the Vallejo Economic Development Plan (2012) which identifies the manufacturing industry as a industry cluster targeted for growth in Vallejo. The projects strengthen Vallejo’s strategic advantage for attracting manufacturers to Vallejo by augmenting the city’s transportation assets, which currently include rail and highway infrastructure and a heavy-capacity bridge. The VMT project will add to this infrastructure by creating a Vallejo Marine Terminal that will allow manufacturers in Vallejo and on Mare Island to gain access to an additional mode of transportation to ship products via barge or other sea vessel.
- The presence of the Vallejo Marine Terminal can bring about other benefits for redevelopment in areas like North Mare Island’s industrial zone. As remediation is completed on North Mare Island and land in the industrial-zoned segments of the island becomes available for redevelopment, the Vallejo Marine Terminal can play a critical role in attracting reinvestment in that property due to the proximity of the marine terminal.
- The projects add to the city’s established critical mass of green manufacturing businesses. The Orcem project will produce a low-carbon cement produced from recycled material, GBFS. The milled and blended GGBFS (also known as “Green Cement”) is used in the construction industry as an alternative to cement. Use of this product in construction projects can lead to substantial savings in CO₂, SO₂, NO_x and CO emissions as well as in fine particulate and can extend the life cycle footprint of structures. Orcem’s product provides enhanced concrete performance through superior durability and strength, and better concrete appearance with its lighter color, cleaner surface, and lower maintenance requirements.
- The Orcem project will use the Vallejo Marine Terminal’s deep-water terminal to import primary raw materials from Asia. The Vallejo Marine Terminals’s sea, road, and rail connections provide the necessary infrastructure for Orcem’s incoming raw materials and distribution of their final

products. Orecem’s production facility and operational requirements at full capacity represent approximately 40% of the Vallejo Marine Terminal’s maximum vessel import/export capabilities.

Description of Development Projects and Fiscal and Economic Impact Assumptions

The Development Projects

This study explores the economic and fiscal impact impacts of two proposed projects in Vallejo:

- (1) The VMT Project and
- (2) The Orcem Project,

The two projects are located on the same site with interconnected operations and covered under the same EIR for CEQA. However, for purposes of entitlement processing, the City of Vallejo is treating the VMT and Orcem sites as two separate projects. The site for the development is viewable in Figure 1 and located within the shaded areas labeled as “planned development area” on the mainland side of the Mare Island Strait in Vallejo. Rail service extends to the proposed site and the site has highway access as well as waterfront access.

Benefits of the Projects

Together, these two projects are expected to reactivate the industrial use of this waterfront site that has gone unutilized for nearly 13 years. Once construction is completed and the projects become operational, they will produce local jobs, generate public revenues, potentially create spinoff industrial activity, and re-occupy existing vacant buildings. In addition, the Orcem Project’s “green” nature adds an appeal and branding opportunity for the City that most industrial development projects cannot offer.

The Vallejo Economic Development Strategic Plan (2012) identifies manufacturing and the related transportation/logistics industries as key employment sectors for Vallejo. The manufacturing industry is one of the most important sources of revenues for the City of Vallejo, both because of sales tax revenues that come from the sale of goods produced in Vallejo and because manufacturers are heavy consumers of power utilities. Vallejo leverages a utility tax that generates a significant revenue stream for the city. For these reasons, the strategic plan recommended that the manufacturing industry be targeted for growth in Vallejo as a way of increasing the city’s revenues.

Part of Vallejo’s strategic advantage for manufacturing is the transportation infrastructure that was built by the Navy to serve Mare Island, which would be cost-prohibitive to install today. This includes rail and highway infrastructure and a heavy-capacity bridge. The VMT project will add to this infrastructure by offering a Vallejo Marine Terminal. The terminal will allow manufacturers in Vallejo to access an additional mode of transportation to ship products out and ship materials in via barge or other vessel. This will create an additional strategic advantage to help the City to attract more manufacturers. Manufacturers who are moving goods through the Port of Oakland currently face logistics problems due to limited land at (and near) the Port of Oakland. In addition, freight moved to the Port of Oakland by truck can face long wait times, creating additional costs to transport goods. An alternative method of

accessing the port is via barge or other sea vessel. On a daily basis, there is barge and other vessel traffic that goes past Vallejo, traveling between the ports of Stockton and West Sacramento and the Port of Oakland. This barge traffic provides a means by which manufacturers in Vallejo could efficiently move goods to and from the port and the Vallejo Marine Terminal provides a critical service that allows manufacturers to load and unload product onto vessels. This critical service will connect Vallejo's manufacturers with additional sea-based transportation options, offering greater flexibility and potentially lower costs.

The presence of the Vallejo Marine Terminal can bring about other benefits for redevelopment as well. The North Mare Island industrial area has undergone long-term environmental remediation that has delayed redevelopment of that portion of Mare Island. As the property's remediation is completed and land in the industrial-zoned segments of the island becomes available for redevelopment, the Vallejo Marine Terminal can play a critical role in attracting reinvestment in that property due to the proximity of the terminal. A nearby terminal that offers access to the Port of Oakland is a strong competitive advantage, when Vallejo competes with other cities in the Bay Area to attract manufacturing investment and development.

In addition, the projects add to the city's established critical mass of green manufacturing businesses. In addition to Blu Homes' green manufacturing operations on Mare Island, there are several businesses engaged in recycling, refurbishment of equipment, and environmental remediation on Mare Island. The island is also home to offices for the US Forest Service, green energy companies, and other businesses that place a strong emphasis on environmental sustainability. The Orcem project will produce a low-carbon cement produced from the recycled material, to the primary finished product, GGBFS. GGBFS (also known as "Green Cement") is used in the construction industry as an alternative to cement. Use of the product in construction projects can lead to substantial savings in CO₂, SO₂, NO_x and CO emissions as well as in fine particulate. The life cycle footprint of structures made with the product is significantly reduced because structures made with GGBFS can last over twice as long as structures made with traditional cement.

Finally, in addition to the environmental benefits, benefits for redevelopment, and economic benefits, the Orcem projects offer substantial fiscal benefits to the City of Vallejo in the form of increased tax and fee revenue. The two projects will create and support 99 direct permanent new jobs once they are at full operation level in 2025, most of which will be higher-paying jobs that offer good career opportunities for local residents.

The Vallejo Marine Terminal (VMT) Project

The VMT Project is a 34.3-acre site whose territory includes a portion of the old General Mills flour plant that was closed in 2004. The VMT Project will involve a single major phase of development. The VMT Project will re-establish the industrial use of this property. This will be done by removal and reconstruction of the damaged timber wharf. A modern deep-water terminal will be constructed along with upgrades to existing trucking connections and eventual rail service, providing the opportunity to

support transloading of goods from deep-draft vessels as well as barges and other smaller vessels. This project also has the ability to help catalyze additional industrial activities within the City and larger region, and could be a major step toward helping to reactivate this waterfront, boost the number of local jobs, stimulate public revenues, and re-brand the City as a multi-modal, industrial hub within the Bay Area.

The VMT Project will bring economic and fiscal benefits to the local economy and to local taxing entities through several impacts including

- **Impacts from construction:** The cumulative construction costs for the project will total \$10.36 million for the project. The new construction will create construction-related economic effects and create temporary construction jobs during the period from 2019 through 2022. The investment will increase the property value from \$4,100,000 in 2012 to an estimated \$14,752,474 by 2022.
- **Impacts from the operations:** The VMT Project will operate the Vallejo Marine Terminal. VMT will earn taxable income on the property through rental income on leased property, wharfage income (fees for use of the wharf for movement of goods), and stevedore income (fees paid to move goods through the wharf).
 - **Wharfage Income:** The maximum capacity of terminal volume once completed will be almost two million tons per year. Wharfage income is estimated with the expectation of 85% maximum capacity. Taxable wharfage income is expected to begin in 2020.
 - **Rental Income:** VMT's rental income will come from rent paid by Orcem for their portion of the property plus rent paid by other tenants at the marine terminal. Other tenants may include incidental commercial and industrial users, consistent with the Intensive Use District regulations, as identified in the VMT application. VMT will also earn rents on temporary storage of materials moved through the terminal throughout the year. The material handling area of the marine terminal (the "Laydown Area") will be comprised of an area covering approximately 8.05 acres, with estimated rents.
 - **Stevedore Income:** The stevedore services will be subcontracted to a terminal operator, however, for simplicity, the impacts associated with stevedore operations of the terminal are presented as part of the total VMT Project. Stevedore expenses are estimated and are additional to wharfage income.

The Orcem Project

The Orcem Project is a 4.88-acre site that is also part of the Old General Mills plant. This site is controlled by VMT and is located within the 31.4-acre site for the VMT project described above. Orcem California Inc. is a subsidiary of Ecocem Materials Ltd, a European manufacturer of environmentally-friendly cement, which is technically known as ground granulated blast furnace slag ("GGBFS"). Orcem is seeking to use the Vallejo site as its first U.S. location, primarily to serve customers in Northern California and neighboring states. Specifically, the Orcem Project proposes to utilize the reconstructed

VMT Project wharf to import needed raw materials to produce GGBFS; once produced, the GGBFS would be transported to California customers via truck and rail.

The Orcem Project will generate economic and fiscal impacts from several sources:

- **Construction:** The local costs of construction and equipment for the Orcem project will include \$12,495,000 in building construction costs. Approximately \$10,400,000 of the construction expenses are expected to be incurred in 2019 and the remainder will be incurred between 2020 and 2024. This spending will create temporary jobs and generate temporary economic impacts during the construction phase.
- **Equipment:** Orcem anticipates purchasing equipment to facilitate their operations. The budgeted cost for equipment purchased in the United States is \$14,550,000. In addition, Orcem will purchase equipment from outside the United States that has an estimated cost of \$10,280,000. The purchases from within the US will generate economic impacts on supplier businesses.
- **Change in Property Value:** The property value is estimated to be valued at \$29.597 million when the facility opens in 2020 (up from \$347,000 in 2015) and property value is expected to increase to \$37.872 million by 2025.
- **Negligible Sales Tax Revenue:** The revenues for the Orcem Project are not expected to have a large impact on city sales tax revenues. They will be mainly derived from the sale of their products, which are inputs into construction and are not subject to local sales tax.

Assumptions for Economic and Fiscal Impacts

State, county, and city governments benefit from several sources of revenue as a result of the Orcem and VMT projects, which are derived from fees and taxes. The following sources of income have been included in the analysis:

- **Sales tax:** The rate of 8.625% is assumed for all the years considered. It is assumed that 2% of the county-collected sales tax will go to City of Vallejo. This includes the 1% that is typical to all local jurisdictions and another 1% from the Measure B passed in 2011.^{iv}
- **Property tax:** A 1% general levy tax rate is assumed on assessed property value. The City's share of the 1% general levy property tax rate was assumed to be 19% for all years. Property tax includes land value so that the total benefits of the project can be compared with any external estimates of project costs to arrive at an accurate measure of net revenue to the city. Property tax in-lieu of VLF is also included.
- **Utility tax:** Vallejo utility users pay a tax rate of 7.5%, and this rate is assumed for all years.^v
- **Fees and licenses:** It is assumed that 21% of consulting fees from Orcem and VMT will go to City of Vallejo for services offered by the City in preparing environmental reports. In addition, there are a large number of different state, county and city fees and licenses for business operations, construction, and other activities.

The fiscal and economic impacts of the projects are estimated using the IMPLAN economic model. IMPLAN determines three classifications of impacts:

- (1) **Direct Impacts:** These are the fiscal and economic impacts arising from the operations of the two projects.
- (2) **Indirect Impacts:** These are the fiscal and economic impacts that arise as a result of the purchases that the two projects make from suppliers (e.g. the purchase of goods and services by suppliers creates jobs at those suppliers).
- (3) **Induced impacts:** These are the fiscal and economic impacts that arise when the employees of at the two projects re-spend their earnings. The re-spending on purchases generates additional sales tax revenue and can lead to other “spin-off” effects.

The model estimates these impacts based on the average spending by similar businesses that are operating in Solano County and are in similar industries. For the purposes of the model is assumed that

- **Sector 161: Ready mix concrete manufacturing** is the most similar industry to Orcem.^{vi}
- **Sector 360: Real estate establishment** is used for rent received by VMT from Orcem.
- **Sector 338: Transportation support services** is used to estimate impacts from wharfage income.
- **Sector 135: Truck transportation** is used to estimate impacts from Orcem concrete distribution.

Impacts Not Included in the Model

A portion of the impact from the Orcem operation has been reduced in the local area because:

- (1) A portion of supplies and some of the equipment are imported from outside the country. It is assumed that 25% of the Orcem revenue is spent towards raw materials purchased outside US.
- (2) About half (50%) of equipment used in the Orcem operation is bought outside US.

A second economic impact may have a positive effect on tax revenues: there is an average of just over 200 trucks per day that will move materials in and out of the combined VMT and Orcem facilities.

Economic impact due to truck movement is tough to quantify since its difficult to estimate where the trucks will fill their gas tanks and what kind of trucks will be involved. For this reason, this impact has been excluded from the analysis, but offers significant upside economic impacts for the projects.

There is also an unknown component to VMT's stevedoring/wharfage business since clients can bring in different commodities for loading/unloading via ships. Depending on the goods moved, the stevedore labor requirements may be higher than estimated. In addition, it is expected that the site will eventually have rail connection, which will increase the attractiveness of the site for manufacturing and may increase the movement of goods, creating the potential for additional sales revenues and sales tax revenues flowing to the City of Vallejo. These effects will have a positive effect on tax revenues for the state and local governments, but are not included in the estimates in this study.

Finally, VMT has a rent offset provision for waterfront improvements that allows rent paid to the City to be adjusted down to 15% with the total rent offset not to exceed \$8MM over the period of lease (65

years). The effect of this reduction is assumed to be the same in every year in the model; however, the exact percentage of the reduction in any particular year may fluctuate. The max offset is reported separately in report tables; the actual offsets will be a function of actual fees and taxes paid in a given year.

Fiscal and Economic Impacts to State and Local Governments

Between 2019 and 2025, the two projects combined are expected to cumulatively generate approximately \$9.09 million in tax and fee revenue to state and local governments. The City of Vallejo is expected to receive approximately 36% of these funds that are expected to cumulatively total \$3.28 million between 2019 and 2025. Solano County is expected to collect a cumulative total of \$3.08 million in property taxes from the two projects between 2019 and 2025.

The fiscal impacts from the two projects will grow over time. In 2019, the two projects combined are expected to generate \$886,416 in tax and fee revenue for state and local governments. By 2025, the total annual receipts to state and local governments are expected to reach \$2,048,173 per year. The City of Vallejo's revenue from the projects is expected to be \$223,938 in 2019, less up to 81,192 in lease offsets. Revenues for the City are expected to reach \$648,303 in 2025, less up to \$92,788 in lease offsets, and remain near that level thereafter.

Under the current tax code, the property tax from the facility will benefit Solano County and all communities and agencies in the county. Property taxes for the two projects combined are expected to be \$481,760 in 2022, increasing to \$567,245 in 2025.

The job creation from the two projects is expected to be significant. Together, the two projects are expected to support a total of 192 permanent jobs by 2025. By 2025 when both projects are in operation, they are expected to directly employ workers in 99 full-time equivalent jobs. In addition, it is expected that the project will generate 51 indirect jobs in Solano County from companies that supply services related to the projects. The induced effects of the operations are expected to support the creation of 42 induced jobs (jobs created from re-spending wages). Additional temporary jobs will also be created in the earlier years of the project during the construction phases. At maturity in 2025, the projects will generate \$13.18 million in wages paid to workers. The average wage for direct employees for the two projects will be approximately \$78,796 per year. The average wage for indirect jobs created at suppliers will be approximately \$63,802 and the average wages for induced jobs will be approximately \$50,631 per year. In total, by 2025, the projects will contribute \$21.72 million in value added to gross domestic product (GDP).

Tables 5, 6, 7, 8 and 9 outline the fiscal impacts, employment impacts (jobs and wages) and economic impacts (cumulative output and gross product) arising from the two projects combined over the 2019 to 2025 period.

Table 2 Combined State and Local Fiscal Impacts of the VMT and Orcem Projects

TOTAL FISCAL IMPACTS	2019	2020	2021	2022	2023	2024	2025
Total Direct, Indirect, and Induced State and Local Fiscal Tax Revenue Impacts	\$886,416	\$587,740	\$903,897	\$1,109,114	\$1,555,847	\$1,997,681	\$2,048,173
<i>Corporations</i>	\$110,414	\$65,203	\$92,264	\$116,740	\$155,118	\$199,287	\$201,747
<i>Dividends</i>	\$4,340	\$2,563	\$3,627	\$4,588	\$6,097	\$7,833	\$7,930
Corporate Profits Tax	\$106,073	\$62,641	\$88,637	\$112,152	\$149,021	\$191,453	\$193,816
<i>Employee Compensation</i>	\$42,172	\$24,673	\$37,541	\$38,969	\$51,726	\$64,605	\$64,072
Social Ins Tax- Employee Contribution	\$12,715	\$7,438	\$11,318	\$11,748	\$15,595	\$19,477	\$19,317
Social Ins Tax- Employer Contribution	\$29,458	\$17,235	\$26,224	\$27,221	\$36,131	\$45,127	\$44,755
Tax on Production and Imports	\$453,838	\$337,666	\$525,729	\$691,026	\$990,058	\$1,279,739	\$1,329,407
Tax on Production and Imports: Sales Tax	\$189,053	\$140,661	\$219,001	\$287,859	\$412,425	\$533,096	\$553,786
Tax on Production and Imports: Property Tax	\$206,140	\$153,373	\$238,794	\$313,876	\$449,701	\$581,278	\$603,837
Tax on Production and Imports: Motor Vehicle Lic	\$4,308	\$3,205	\$4,990	\$6,561	\$9,399	\$12,149	\$12,621
Tax on Production and Imports: Severance Tax	\$72	\$53	\$83	\$109	\$156	\$202	\$210
Tax on Production and Imports: Other Taxes	\$35,171	\$26,168	\$40,742	\$53,552	\$76,725	\$99,175	\$103,024
Tax on Production and Imports: S/L NonTaxes	\$19,093	\$14,205	\$22,118	\$29,072	\$41,651	\$53,839	\$55,929
Personal Tax	\$279,992	\$160,198	\$248,363	\$262,379	\$358,945	\$454,050	\$452,947
Personal Tax: Income Tax	\$208,177	\$119,108	\$184,660	\$195,080	\$266,878	\$337,589	\$336,769
Personal Tax: NonTaxes (Fines- Fees	\$56,291	\$32,207	\$49,932	\$52,750	\$72,164	\$91,285	\$91,062
Personal Tax: Motor Vehicle License	\$9,042	\$5,173	\$8,020	\$8,473	\$11,591	\$14,663	\$14,627
Personal Tax: Property Taxes	\$4,353	\$2,491	\$3,862	\$4,079	\$5,580	\$7,059	\$7,042
Personal Tax: Other Tax (Fish/Hunt)	\$2,131	\$1,219	\$1,890	\$1,996	\$2,732	\$3,455	\$3,447

Table 3 Combined Fiscal Impacts of the VMT and Orcem Projects for the City of Vallejo

VALLEJO FISCAL IMPACTS	2019	2020	2021	2022	2023	2024	2025
Direct Impacts							
Property Tax - Including land value (includes possessory tax on leased land)	\$7,790	\$80,517	\$90,603	\$91,534	\$103,018	\$103,949	\$107,777
Sales Tax	\$14,077	\$15,194	\$22,965	\$33,845	\$50,075	\$64,928	\$69,678
Utilities Tax (Not known in VMT's case - assumed to be small)		\$76,590	\$114,660	\$156,375	\$199,305	\$243,045	\$249,930
Permit Fees (Orcem)	\$50,000	\$50,000				\$50,000	
Lease Revenue*	\$95,520	\$97,669	\$99,867	\$102,114	\$104,411	\$106,761	\$109,163
Total Direct Tax and Lease Revenues to the City of Vallejo	\$167,387	\$319,970	\$328,095	\$383,868	\$456,809	\$568,682	\$536,547
Indirect and Induced Impacts							
Property Tax	\$26,790	\$15,699	\$25,079	\$29,689	\$41,119	\$52,973	\$53,019
Sales Tax	\$29,762	\$17,423	\$27,818	\$32,905	\$45,560	\$58,689	\$58,736
Total Indirect and Induced Tax Revenues to the City of Vallejo	\$56,551	\$33,121	\$52,897	\$62,594	\$86,679	\$111,662	\$111,755
Total Direct, Indirect, and Induced Revenues to the City of Vallejo	\$223,938	\$353,091	\$380,992	\$446,462	\$543,488	\$680,344	\$648,303
<i>*Max lease offset (city still gets revenue in form of fees and taxes)</i>	<i>\$81,192</i>	<i>\$83,019</i>	<i>\$84,887</i>	<i>\$86,797</i>	<i>\$88,750</i>	<i>\$90,746</i>	<i>\$92,788</i>

Table 4 Combined Fiscal Impacts of the VMT and Orcem Projects for Solano County

	2019	2020	2021	2022	2023	2024	2025
Property Tax Paid to County - Including land value (includes possessory tax on leased land)	\$41,000	\$423,771	\$476,859	\$481,760	\$542,198	\$547,099	\$567,245

Table 5 Jobs Created by the VMT and Orcem Projects, Wages, and Averages^{vii}

TOTAL EMPLOYMENT AND WAGES IMPACTS	2019	2020	2021	2022	2023	2024	2025
Direct Jobs Created	109	57	66	47	67	84	99
Indirect Jobs Created	22	17	20	19	31	40	51
Induced Jobs Created	37	22	23	17	25	31	42
Total Jobs Created	168	96	109	83	122	155	192
Wages Direct Jobs	\$8,321,876	\$4,685,690	\$5,234,070	\$3,425,821	\$5,083,375	\$6,522,396	\$7,800,844
Wages Indirect Jobs	\$1,124,105	\$913,814	\$1,108,780	\$1,118,898	\$1,884,595	\$2,472,121	\$3,253,925
Wages Induced Jobs	\$1,679,266	\$996,644	\$1,090,131	\$800,532	\$1,206,198	\$1,542,187	\$2,126,505
Total Wages	\$11,125,247	\$6,596,148	\$7,432,981	\$5,345,251	\$8,174,168	\$10,536,704	\$13,181,274
Average Wages Direct Jobs	\$76,683	\$81,650	\$79,013	\$73,114	\$76,110	\$77,412	\$78,796
Average Wages Indirect Jobs	\$50,750	\$54,708	\$55,964	\$58,786	\$61,393	\$62,420	\$63,802
Average Wages Induced Jobs	\$44,872	\$45,779	\$46,693	\$47,438	\$48,578	\$49,471	\$50,631
Average of all Wages	\$66,184	\$68,809	\$67,942	\$64,584	\$66,828	\$67,964	\$68,652

Table 6 Combined State and Local Economic Impacts of the VMT and Orcem Projects

ECONOMIC IMPACTS	2019	2020	2021	2022	2023	2024	2025
Direct Impacts							
Total Output	\$24,092,951	\$12,508,546	\$18,767,826	\$25,413,576	\$35,904,341	\$48,062,307	\$47,915,475
Total Value Added to GDP	\$8,960,056	\$5,058,267	\$7,274,836	\$7,769,422	\$10,284,643	\$12,934,070	\$12,982,145
Indirect Impacts							
Total Output	\$1,839,552	\$1,456,914	\$2,704,069	\$4,124,386	\$5,996,634	\$7,928,916	\$8,044,940
Total Value Added to GDP	\$1,108,046	\$868,901	\$1,597,946	\$2,421,939	\$3,525,063	\$4,661,298	\$4,727,805
Induced Impacts							
Total Output	\$3,726,999	\$2,129,246	\$3,296,012	\$3,478,591	\$4,756,619	\$6,015,763	\$6,000,620
Total Value Added to GDP	\$2,478,176	\$1,418,205	\$2,198,332	\$2,322,030	\$3,175,739	\$4,016,714	\$4,006,746
Total Impacts							
Total Output	\$29,659,502	\$16,094,706	\$24,767,907	\$33,016,553	\$46,657,593	\$62,006,986	\$61,961,036
Total Value Added to GDP	\$12,546,278	\$7,345,372	\$11,071,113	\$12,513,391	\$16,985,445	\$21,612,083	\$21,716,694

About the Consulting team

About Field Guide Consulting

Field Guide Consulting is a research and policy development consulting firm that helps governments, educational institutions, and private companies to understand the economic, fiscal, and market impacts of new projects and infrastructure developments, by leveraging state-of-the-art market research and quantitative econometric analysis. As our name implies, we specialize in the development of highly practical *field guides*, or handbooks that stakeholders use to understand conditions and take action to create opportunities and build stronger industries or communities. Unlike many economic studies and plans that may rarely be used or sit on a shelf, our field guides are designed to be practical and actionable by providing metrics that inform decisions.

Field Guide Consulting is founded by Mr. Chris Seals, a seasoned economist and strategic planning professional with over 15 years of experience in economic analysis and economic development strategic planning for communities and industries across Canada, the United States, Latin America, the EU and Asia. Mr. Seals has completed market research assignments in over 60 countries, including assignments that assess the economic impacts of new business or infrastructure, projects to attract foreign direct investment, attract international talent, perform competitive benchmarking and industry analysis, develop supply chain opportunities, and uncover opportunities in emerging and niche sectors.

The Field Guide Consulting team enjoys an international reputation for technical excellence and quality of service. We bring to each assignment a practical, problem-solving approach coupled with state-of-the-art analytical techniques. Many of the team's current and previous engagements have involved extensive industry research at local, national, and international levels, advanced data mining techniques, statistical and economic analysis, data collection, and extensive survey research.

The FGC team has selected a team of qualified professionals to work on this assignment including Mr. Seals who will serve as the principal in charge and project manager, Dr. Ray Duch, professor of political economics at Nuffield College, University of Oxford (UK) who will estimate the economic impacts and Mr. Chancy Edwards, a quantitative analyst at FGC who worked previously with the City of Vallejo on the Economic Development Strategic Plan.

field guide

noun

1. a portable illustrated guidebook designed to be brought 'into the field' to describe objects of some type that might be encountered.

Uses

- ☞ **to identify** birds, plants, rocks, or other objects, on a nature walk.
- ☞ **to distinguish objects** that may be similar in appearance but are not necessarily closely related.
- ☞ **to aid in shooting at targets** of varying and unmarked distance, often in rough terrain.
- ☞ **to improve techniques and abilities** required for hunting in a realistic setting.

Endnotes

ⁱ **Direct impacts** are the fiscal and economic impacts arising from the operations of the two projects. **Indirect impacts** are the fiscal and economic impacts that arise as a result of the purchases that the two projects make from suppliers (e.g. the purchase of goods and services by suppliers creates jobs at those suppliers). **Induced impacts** are the fiscal and economic impacts that arise when the employees of at the two projects re-spend their earnings. The re-spending on purchases generates additional sales tax revenue and can lead to other “spin-off” effects.

ⁱⁱ Estimates of fiscal benefits assume the maximum lease offsets (85% max offset).

ⁱⁱⁱ Output includes total revenues for the projects, suppliers and local businesses impacted by induced spending.

^{iv} See <http://www.boe.ca.gov/cgi-bin/rates.cgi?LETTER=V&LIST=CITY>

^v See <http://www.ci.vallejo.ca.us/cms/One.aspx?portalId=13506&pageId=23763>

^{vi} The sector most closely aligned with Orcem’s operations is Sector 167 - Earth Minerals. However, this industry does not currently exist in Solano County. In order to estimate indirect and induced impacts that are most relevant to the local area, the alternative sector was selected, which is in operation in Solano County.

^{vii} There is a slight difference in wages between the Orcem and VMT jobs, and that this accounts for the Total Wage differences between the previous report and this one.