

Field Guide Consulting

Fiscal and Economic Impact Study

Covering Two Proposed Projects in Vallejo, California:

The VMT Project and the Orcem Project

Prepared for:

Steve Bryan,
President, Orcem Americas Inc.

Ken C. Dawson,
CFO, Vallejo Marine Terminal, LLC.

Prepared by:

Chris Seals
President, Field Guide Consulting

November 7, 2014

FISCAL AND ECONOMIC IMPACT STUDY

Orcem Americas Inc.
&
Vallejo Marine Terminal, LLC

Prepared by

Field Guide Consulting

Cover Letter

November 7, 2014

To: Steve Bryan
President, Orcem Americas Inc.

Ken C. Dawson
CFO, Vallejo Marine Terminal, LLC

From: Mr. Chris Seals
President, Field Guide Consulting
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(713) 240-5101

Re: Fiscal and Economic Impact Study at the Former General Mills Site, Vallejo, California

Dear Steve and Ken,

On behalf of Field Guide Consulting (FGC), I am pleased to submit this study of the economic and fiscal impacts of your proposed projects at the site formerly owned by General Mills in Vallejo, California.

Best Regards,

Chris

Chris Seals
President, Field Guide Consulting

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Key Findings

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 34.3-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 4.83-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 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 2015-2021

Key Impacts	2015	2016	2017	2018	2019	2020	2021
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	\$151,295	\$284,501	\$298,492	\$359,967	\$440,618	\$568,255	\$533,460
Total Property Tax Receipts: Solano County ⁱ	\$46,863	\$448,621	\$504,343	\$509,486	\$572,923	\$578,066	\$599,212
Total Full Time Equivalent Jobs	122	67	103	113	153	193	189
Average Wages	\$66,793	\$70,402	\$70,232	\$67,612	\$68,357	\$68,492	\$69,635
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 2015 and 2021, the two projects combined will cumulatively generate approximately \$9.09 million in receipts to state and local governments through direct, indirect and induced impacts.ⁱⁱ 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 29% of the taxes and fees paid in the 2015-2021 period. These funds are expected to cumulatively total \$2.64 million between 2015 and 2021.

- Property tax collected by Solano County is expected to total \$3.26 million over the 2015-2021 period. Thereafter, property tax receipts by the County as a result of the two projects are expected to exceed \$599,000 per year. These taxes will also benefit all taxing entities in Solano County including cities, schools, libraries, etc. Under current tax regulation, the City of Vallejo will receive 5.3% of these funds with the remainder being allocated to other agencies in Solano County, including the County itself.
- The fiscal impacts from the two projects will grow over time. In 2015, 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 2021. The City's revenue from the projects is expected to be \$151,295 in 2015 and is expected to reach \$533,460 in 2021 and remain near that level thereafter.
- Together, the two projects will support a total of 189 permanent jobs by 2021, including direct, indirect, and induced jobs. Temporary jobs will also be created in the earlier years of the project during the construction phases.
- 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 more local employment through consumption of locally-provided services such as security, landscaping, and other services.
- 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).
- The average wages for direct employees for the two projects will be approximately \$80,445 per year by 2021. The average wage for indirect jobs created at suppliers will be approximately \$64,275 and the average wages for induced jobs will be approximately \$50,659 per year.
- In total, by 2021, the projects will contribute \$21.7 million in value added to the local gross domestic product (GDP) based on output (total revenues for the projects, suppliers and local businesses impacted by induced spending) 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 10 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, Ecocem. Ecocem 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 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. Orcem's production facility and operational requirements at full capacity represent approximately one-third of of the Vallejo Marine Terminal's maximum 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:

- (3) The VMT Project and
- (4) 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 Straight in Vallejo. Rail service extends to the proposed site and the site has highway access as well as waterfront access.

Figure 1 Vallejo Industrial Property Map



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 10 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 recycled material, Ecocem. Ecocem 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 Ecocem 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 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 nearly 100 new jobs once they are at full operation level in 2021, 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 two phases of development. In Phase I, 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. This project 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. In Phase II, the VMT Project will involve investments in the property to support efficient rail loading, and the construction of additional wharf to support ocean going barges and other sea vessels.

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 Phase I and Phase II combined. The new construction will create construction-related economic effects and create temporary construction jobs during the period from 2015 through 2018. The investment will increase the property value from \$4,100,000 in 2012 to an estimated \$14,752,474 by 2022; as a result the estimated property taxes for the VMT project alone is expected to grow from \$46,863 in 2012 to an estimated \$168,621 in 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 Phase I and II are completed will be two million tons per year. Wharfage income is estimated with the expectation of 85% maximum capacity. Taxable wharfage income is expected to begin in 2016.
 - **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 will include the terminal operator. 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 will be comprised of an area covering five acres (217,800 square feet) 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 4.83-acre site that is also part of the Old General Mills plant. This site is controlled by VMT and is located within the 34.3-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 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 2015 and the remainder will be incurred between 2016 and 2020. 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 2016 (up from \$347,000 in 2015) and property value is expected to increase to \$37.872 million by 2022. Resulting property taxes for the Orcem Project will grow from \$338,294 in 2016 to \$432,877 in 2022 and more beyond.
- **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 8.625% sales that 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. ⁱⁱⁱ
- **Property tax:** The rate of 1.14% is assumed for all years. Of this, 5.3% of all property taxes collected goes to City of Vallejo.^{iv} For example, if a property is valued at \$1 million, \$11,400 is collected in property tax by the county (1.14% of the property value). This amount is then

allocated to agencies within the county and \$604 is allocated to the City of Vallejo (5.3% of \$11,400). No future increase in property tax rate or allocation to the City of Vallejo has been assumed in the model estimates.

- **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 are an estimated 200 trucks per day that will move materials in and out of the VMT facility. 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.

Fiscal and Economic Impacts to State and Local Governments

Between 2015 and 2021, 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 29% of these funds that are expected to cumulatively total \$2.64 million between 2015 and 2021. Solano County is expected to collect a cumulative total of \$3.26 million in property taxes from the two projects between 2015 and 2021.

The fiscal impacts from the two projects will grow over time. In 2015, the two projects combined are expected to generate \$886,416 in tax and fee revenue for state and local governments. By 2021, 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 \$151,295 in 2015. Revenues for the City are expected to reach \$533,460 in 2021 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 \$448,621 in 2016, increasing to \$599,212 in 2021. The City of Vallejo will receive just 5.3% of these funds with the remainder being allocated Solano County, other cities in the county, and to other taxing entities (schools, libraries, etc.).

The job creation from the two projects is expected to be significant. Together, the two projects are expected to support a total of 189 permanent jobs by 2021. By 2021 when both projects are in operation, they are expected to directly employ workers in 97 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 41 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 2021, the projects will generate \$13.15 million in wages paid to workers. The average wage for direct employees for the two projects will be approximately \$80,445 per year. The average wage for indirect jobs created at suppliers will be approximately \$64,275 and the average wages for induced jobs will be approximately

\$50,649 per year. In total, by 2021, the projects will contribute \$21.72 million in value added to the local 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 2015 to 2021 period.

Impacts from Individual Projects

The fiscal, economic, and employment impacts of the two projects differ significantly from one another and the annual impacts vary based on construction activity and changes over time in anticipated production/operation levels. An economic and fiscal impact for each of the two projects has been estimated separately and individually for all years. These impacts are presented in tables 10 and 11. Except where otherwise stated, the figures are presented in constant value dollars (no inflation assumed). The impacts of the two projects are presented in detail on the following pages.

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

TOTAL FISCAL IMPACTS	2015	2016	2017	2018	2019	2020	2021
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	2015	2016	2017	2018	2019	2020	2021
Direct Impacts							
Property Tax (Includes Possessory tax on leased land)	\$2,484	\$23,777	\$26,730	\$27,003	\$30,365	\$30,638	\$31,758
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	\$50,000	\$50,000				\$50,000	
Lease Revenue	\$47,500	\$97,138	\$99,323	\$101,558	\$103,843	\$106,179	\$108,568
Total Direct Tax and Lease Revenues to the City of Vallejo	\$114,060	\$262,699	\$263,678	\$318,780	\$383,588	\$494,789	\$459,935
Indirect and Induced Impacts							
Property Tax	\$7,473	\$4,379	\$6,996	\$8,282	\$11,470	\$14,777	\$14,790
Sales Tax	\$29,762	\$17,423	\$27,818	\$32,905	\$45,560	\$58,689	\$58,736
Total Indirect and Induced Tax and Lease Revenues to the City of Vallejo	\$37,235	\$21,802	\$34,814	\$41,187	\$57,030	\$73,466	\$73,526
Total Direct, Indirect, and Induced Revenues to the City of Vallejo	\$151,295	\$284,501	\$298,492	\$359,967	\$440,618	\$568,255	\$533,460

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

	2015	2016	2017	2018	2019	2020	2021
Gross Property Tax Paid to County	\$46,863	\$448,621	\$504,343	\$509,486	\$572,923	\$578,066	\$599,212

Table 5 Jobs Created by the VMT and Orcem Projects, Wages, and Averages

TOTAL EMPLOYMENT AND WAGES IMPACTS	2015	2016	2017	2018	2019	2020	2021
Direct Jobs Created	80	40	60	60	79	99	97
Indirect Jobs Created	14	10	19	28	40	51	51
Induced Jobs Created	29	16	24	25	34	42	41
Total Jobs Created	122	67	103	113	153	193	189
Wages Direct Jobs	\$6,197,399	\$3,371,093	\$5,023,719	\$4,780,622	\$6,354,638	\$7,885,169	\$7,803,125
Wages Indirect Jobs	\$692,348	\$578,459	\$1,089,561	\$1,667,987	\$2,445,177	\$3,234,679	\$3,284,466
Wages Induced Jobs	\$1,279,088	\$732,199	\$1,134,699	\$1,198,287	\$1,638,245	\$2,071,760	\$2,066,477
Total Wages	\$8,168,834	\$4,681,752	\$7,247,978	\$7,646,897	\$10,438,060	\$13,191,608	\$13,154,068
Average Wages Direct Jobs	\$77,371	\$84,067	\$83,450	\$79,281	\$80,033	\$79,328	\$80,445
Average Wages Indirect Jobs	\$50,908	\$55,621	\$58,265	\$60,216	\$61,747	\$62,931	\$64,275
Average Wages Induced Jobs	\$44,880	\$45,762	\$46,695	\$47,551	\$48,613	\$49,564	\$50,649
Average of all Wages	\$66,793	\$70,402	\$70,232	\$67,612	\$68,357	\$68,492	\$69,635

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

ECONOMIC IMPACTS	2014	2015	2016	2017	2018	2019	2020
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 Vallejo 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 Vallejo 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 Vallejo 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 Vallejo GDP	\$12,546,278	\$7,345,372	\$11,071,113	\$12,513,391	\$16,985,445	\$21,612,083	\$21,716,694

Table 7 Impacts of the VMT Project

	2015	2016	2017	2018	2019	2020	2021
FISCAL IMPACTS							
Direct Impacts							
Fiscal Revenue Impacts to City of Vallejo							
Property Tax (Includes Possessory tax on leased land)	\$2,484	\$5,847	\$5,847	\$5,847	\$8,937	\$8,937	\$8,937
Sales Tax	\$6,672	\$8,030	\$9,191	\$10,564	\$16,907	\$21,496	\$26,351
Utilities Tax (Not known in VMT's case - assumed to be small)							
Permit Fees							
Lease Revenue	\$47,500	\$97,138	\$99,323	\$101,558	\$103,843	\$106,179	\$108,568
<i>Total Direct Tax and Lease Revenues to the City of Vallejo</i>	<i>\$56,656</i>	<i>\$111,015</i>	<i>\$114,361</i>	<i>\$117,970</i>	<i>\$129,687</i>	<i>\$136,612</i>	<i>\$143,856</i>
Indirect and Induced Impacts							
Fiscal Revenue Impacts to City of Vallejo							
Increased Property Tax	\$1,838	\$915	\$2,049	\$880	\$1,494	\$2,180	\$2,660
Sales Tax	\$7,323	\$3,644	\$8,162	\$3,503	\$5,940	\$8,664	\$10,571
Utilities Tax							
Permit Fees							
Lease Revenue							
<i>Total Indirect and Induced Tax and Lease Revenues to the City of Vallejo</i>	<i>\$9,161</i>	<i>\$4,559</i>	<i>\$10,212</i>	<i>\$4,383</i>	<i>\$7,434</i>	<i>\$10,844</i>	<i>\$13,231</i>
<i>Total Direct, Indirect, and Induced Tax and Lease Revenues to the City of Vallejo</i>	<i>\$65,817</i>	<i>\$115,574</i>	<i>\$124,573</i>	<i>\$122,353</i>	<i>\$137,121</i>	<i>\$147,456</i>	<i>\$157,087</i>
Property Tax Paid to County (Including Possessory interest tax on city land)	\$46,863	\$110,328	\$110,328	\$110,328	\$168,621	\$168,621	\$168,621
TOTAL FISCAL IMPACTS TO STATE AND LOCAL GOVERNMENTS							
Total Direct, Indirect, and Induced State and Local Fiscal Tax Revenue Impacts							
<i>Corporations</i>	<i>\$31,160</i>	<i>\$23,277</i>	<i>\$35,307</i>	<i>\$25,701</i>	<i>\$28,519</i>	<i>\$33,728</i>	<i>\$41,459</i>
<i>Dividends</i>	<i>\$1,225</i>	<i>\$915</i>	<i>\$1,388</i>	<i>\$1,010</i>	<i>\$1,121</i>	<i>\$1,326</i>	<i>\$1,630</i>
Corporate Profits Tax	\$29,935	\$22,362	\$33,919	\$24,691	\$27,398	\$32,402	\$39,829
<i>Employee Compensation</i>	<i>\$11,323</i>	<i>\$5,315</i>	<i>\$12,464</i>	<i>\$4,893</i>	<i>\$8,153</i>	<i>\$12,065</i>	<i>\$14,713</i>
Social Ins Tax- Employee Contribution	\$3,414	\$1,602	\$3,758	\$1,475	\$2,458	\$3,637	\$4,436
Social Ins Tax- Employer Contribution	\$7,909	\$3,713	\$8,707	\$3,418	\$5,695	\$8,427	\$10,277
Tax on Production and Imports	\$144,885	\$120,856	\$179,649	\$145,630	\$236,521	\$312,229	\$382,233
Tax on Production and Imports: Sales Tax	\$60,354	\$50,345	\$74,836	\$60,665	\$98,527	\$130,064	\$159,225

	2015	2016	2017	2018	2019	2020	2021
Tax on Production and Imports: Property Tax	\$65,809	\$54,895	\$81,599	\$66,148	\$107,432	\$141,820	\$173,616
Tax on Production and Imports: Motor Vehicle Lic	\$1,375	\$1,147	\$1,705	\$1,383	\$2,245	\$2,964	\$3,629
Tax on Production and Imports: Severance Tax	\$23	\$19	\$28	\$23	\$37	\$49	\$60
Tax on Production and Imports: Other Taxes	\$11,228	\$9,366	\$13,922	\$11,286	\$18,329	\$24,197	\$29,622
Tax on Production and Imports: S/L NonTaxes	\$6,095	\$5,084	\$7,558	\$6,127	\$9,950	\$13,136	\$16,081
Personal Tax	\$75,513	\$37,298	\$84,876	\$36,159	\$66,078	\$97,500	\$118,916
Personal Tax: Income Tax	\$56,145	\$27,731	\$63,106	\$26,884	\$49,129	\$72,492	\$88,415
Personal Tax: NonTaxes (Fines- Fees	\$15,182	\$7,499	\$17,064	\$7,270	\$13,285	\$19,602	\$23,907
Personal Tax: Motor Vehicle License	\$2,439	\$1,204	\$2,741	\$1,168	\$2,134	\$3,149	\$3,840
Personal Tax: Property Taxes	\$1,174	\$580	\$1,320	\$562	\$1,027	\$1,516	\$1,849
Personal Tax: Other Tax (Fish/Hunt)	\$575	\$284	\$646	\$275	\$503	\$742	\$905
TOTAL EMPLOYMENT AND WAGES IMPACTS							
Direct Jobs Created	24	13	26	13	20	28	33
Indirect Jobs Created	3	2	3	2	3	5	6
Induced Jobs Created	8	4	8	4	6	9	11
Total Jobs Created	34	18	37	18	30	41	50
Wages Direct Jobs	\$1,731,591	\$836,555	\$1,930,044	\$794,388	\$1,406,734	\$2,079,523	\$2,536,152
Wages Indirect Jobs	\$125,850	\$77,000	\$154,021	\$87,650	\$194,101	\$283,054	\$345,358
Wages Induced Jobs	\$344,932	\$170,183	\$387,520	\$164,812	\$300,652	\$443,647	\$541,095
Total Wages	\$2,202,373	\$1,083,738	\$2,471,585	\$1,046,851	\$1,901,487	\$2,806,224	\$3,422,605
Average Wages Direct Jobs	\$72,150	\$63,375	\$73,948	\$61,580	\$69,640	\$74,803	\$76,161
Average Wages Indirect Jobs	\$50,340	\$51,333	\$53,111	\$54,781	\$60,657	\$61,533	\$62,792
Average Wages Induced Jobs	\$44,796	\$45,995	\$46,689	\$47,089	\$48,492	\$49,294	\$50,570
Average of all Wages	\$64,397	\$58,899	\$66,262	\$58,158	\$64,239	\$67,947	\$69,144
ECONOMIC IMPACTS							
Direct Impacts							
Total Output	\$4,564,951	\$2,554,934	\$5,246,601	\$2,594,851	\$3,492,491	\$4,770,255	\$5,832,867
Total Value Added to Vallejo GDP	\$2,580,792	\$1,578,473	\$2,911,891	\$1,651,134	\$2,307,806	\$3,083,719	\$3,773,499
Indirect Impacts							
Total Output	\$342,947	\$207,870	\$412,884	\$232,163	\$452,807	\$649,002	\$792,298

	2015	2016	2017	2018	2019	2020	2021
Total Value Added to Vallejo GDP	\$207,573	\$126,556	\$247,389	\$140,044	\$275,086	\$394,030	\$481,040
Induced Impacts							
Total Output	\$1,005,095	\$495,167	\$1,125,860	\$478,699	\$873,667	\$1,289,178	\$1,572,350
Total Value Added to Vallejo GDP	\$668,327	\$329,944	\$751,038	\$319,721	\$583,818	\$861,465	\$1,050,690
Total Impacts							
Total Output	\$5,912,993	\$3,257,971	\$6,785,345	\$3,305,713	\$4,818,965	\$6,708,436	\$8,197,516
Total Value Added to Vallejo GDP	\$3,456,693	\$2,034,973	\$3,910,317	\$2,110,899	\$3,166,710	\$4,339,215	\$5,305,228

Table 8 Impacts of the Orcem Project

	2015	2016	2017	2018	2019	2020	2021
FISCAL IMPACTS							
Direct Impacts							
Fiscal Revenue Impacts to City of Vallejo							
Property Tax		\$17,930	\$20,883	\$21,155	\$21,428	\$21,701	\$22,821
Sales Tax	\$7,405	\$7,165	\$13,774	\$23,280	\$33,168	\$43,432	\$43,328
Utilities Tax		\$76,590	\$114,660	\$156,375	\$199,305	\$243,045	\$249,930
Permit Fees	\$50,000	\$50,000	\$-	\$-	\$-	\$50,000	\$-
Lease Revenue							
<i>Total Direct Tax and Lease Revenues to the City of Vallejo</i>	\$57,405	\$151,684	\$149,316	\$200,811	\$253,901	\$358,177	\$316,079
Indirect and Induced Impacts							
Fiscal Revenue Impacts to City of Vallejo							
Increased Property Tax	\$5,635	\$3,464	\$4,946	\$7,402	\$9,976	\$12,597	\$12,130
Sales Tax	\$22,439	\$13,778	\$19,656	\$29,402	\$39,620	\$50,025	\$48,165
Utilities Tax							
Permit Fees							
Lease Revenue							
<i>Total Indirect and Induced Tax and Lease Revenues to the City of Vallejo</i>	\$28,073	\$17,242	\$24,602	\$36,804	\$49,596	\$62,622	\$60,295
<i>Total Direct, Indirect, and Induced Tax and Lease Revenues to the City of Vallejo</i>	\$85,478	\$168,926	\$173,919	\$237,615	\$303,497	\$420,799	\$376,374
Property Tax Paid to County		\$338,294	\$394,015	\$399,158	\$404,302	\$409,445	\$430,591
TOTAL FISCAL IMPACTS							
Total Direct, Indirect, and Induced State and Local Fiscal Tax Revenue Impacts							
<i>Corporations</i>	\$79,254	\$41,926	\$56,957	\$91,039	\$126,599	\$165,559	\$160,288
<i>Dividends</i>	\$3,115	\$1,648	\$2,239	\$3,578	\$4,976	\$6,507	\$6,300
Corporate Profits Tax	\$76,138	\$40,279	\$54,718	\$87,461	\$121,623	\$159,051	\$153,987
<i>Employee Compensation</i>	\$30,849	\$19,358	\$25,077	\$34,076	\$43,573	\$52,540	\$49,359
Social Ins Tax- Employee Contribution	\$9,301	\$5,836	\$7,560	\$10,273	\$13,137	\$15,840	\$14,881
Social Ins Tax- Employer Contribution	\$21,549	\$13,522	\$17,517	\$23,803	\$30,436	\$36,700	\$34,478
Tax on Production and Imports	\$308,953	\$216,810	\$346,080	\$545,396	\$753,537	\$967,510	\$947,174
Tax on Production and Imports: Sales Tax	\$128,699	\$90,316	\$144,165	\$227,194	\$313,898	\$403,032	\$394,561

	2015	2016	2017	2018	2019	2020	2021
Tax on Production and Imports: Property Tax	\$140,331	\$98,478	\$157,195	\$247,728	\$342,269	\$439,458	\$430,221
Tax on Production and Imports: Motor Vehicle Lic	\$2,933	\$2,058	\$3,285	\$5,178	\$7,154	\$9,185	\$8,992
Tax on Production and Imports: Severance Tax	\$49	\$34	\$55	\$86	\$119	\$153	\$150
Tax on Production and Imports: Other Taxes	\$23,943	\$16,802	\$26,820	\$42,266	\$58,396	\$74,978	\$73,402
Tax on Production and Imports: S/L NonTaxes	\$12,998	\$9,121	\$14,560	\$22,945	\$31,701	\$40,703	\$39,848
Personal Tax	\$204,479	\$122,900	\$163,487	\$226,220	\$292,867	\$356,550	\$334,031
Personal Tax: Income Tax	\$152,032	\$91,377	\$121,554	\$168,196	\$217,749	\$265,097	\$248,354
Personal Tax: NonTaxes (Fines- Fees	\$41,109	\$24,708	\$32,868	\$45,480	\$58,879	\$71,683	\$67,155
Personal Tax: Motor Vehicle License	\$6,603	\$3,969	\$5,279	\$7,305	\$9,457	\$11,514	\$10,787
Personal Tax: Property Taxes	\$3,179	\$1,911	\$2,542	\$3,517	\$4,553	\$5,543	\$5,193
Personal Tax: Other Tax (Fish/Hunt)	\$1,556	\$935	\$1,244	\$1,721	\$2,229	\$2,713	\$2,542
TOTAL EMPLOYMENT AND WAGES IMPACTS							
Direct Jobs Created	56	27	34	47	59	72	64
Indirect Jobs Created	11	9	16	26	36	47	46
Induced Jobs Created	21	12	16	22	28	33	30
Total Jobs Created	88	48	66	95	123	151	139
Wages Direct Jobs	\$4,465,808	\$2,534,538	\$3,093,675	\$3,986,234	\$4,947,904	\$5,805,646	\$5,266,973
Wages Indirect Jobs	\$566,498	\$501,459	\$935,540	\$1,580,337	\$2,251,076	\$2,951,625	\$2,939,108
Wages Induced Jobs	\$934,156	\$562,016	\$747,179	\$1,033,475	\$1,337,593	\$1,628,113	\$1,525,382
Total Wages	\$5,966,461	\$3,598,014	\$4,776,393	\$6,600,046	\$8,536,573	\$10,385,384	\$9,731,463
Average Wages Direct Jobs	\$79,604	\$94,221	\$90,724	\$84,098	\$83,579	\$81,084	\$82,684
Average Wages Indirect Jobs	\$51,036	\$56,344	\$59,211	\$60,549	\$61,843	\$63,069	\$64,454
Average Wages Induced Jobs	\$44,911	\$45,692	\$46,699	\$47,626	\$48,640	\$49,638	\$50,677
Average of all Wages	\$67,724	\$74,803	\$72,479	\$69,401	\$69,347	\$68,641	\$69,810
ECONOMIC IMPACTS							
Direct Impacts							
Total Output	\$19,528,000	\$9,953,612	\$13,521,225	\$22,818,725	\$32,411,850	\$43,292,052	\$42,082,608
Total Value Added to Vallejo GDP	\$6,379,264	\$3,479,794	\$4,362,945	\$6,118,288	\$7,976,837	\$9,850,351	\$9,208,646
Indirect Impacts							
Total Output	\$1,496,605	\$1,249,044	\$2,291,185	\$3,892,223	\$5,543,827	\$7,279,914	\$7,252,642

	2015	2016	2017	2018	2019	2020	2021
Total Value Added to Vallejo GDP	\$900,473	\$742,345	\$1,350,557	\$2,281,895	\$3,249,977	\$4,267,268	\$4,246,765
Induced Impacts							
Total Output	\$2,721,904	\$1,634,079	\$2,170,152	\$2,999,892	\$3,882,952	\$4,726,585	\$4,428,270
Total Value Added to Vallejo GDP	\$1,809,849	\$1,088,261	\$1,447,294	\$2,002,309	\$2,591,921	\$3,155,249	\$2,956,056
Total Impacts							
Total Output	\$23,746,509	\$12,836,735	\$17,982,562	\$29,710,840	\$41,838,628	\$55,298,550	\$53,763,520
Total Value Added to Vallejo GDP	\$9,089,585	\$5,310,399	\$7,160,796	\$10,402,492	\$13,818,735	\$17,272,868	\$16,411,466

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 Of this property tax, 5.3% is transferred to the City of Vallejo.

ⁱⁱ **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.

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

^{iv} For more information, see

<http://www.solanocounty.com/civicax/filebank/blobdload.aspx?blobid=17048>

^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.