

Economic Impact Evaluation of Proposed Edith Waste Transfer Station and Convenience Center



Bureau of Business & Economic Research

THE UNIVERSITY *of* NEW MEXICO

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-Doleswar Bhandari

EXECUTIVE SUMMARY

The purpose of this study is to estimate the economic impacts of proposed Edith Waste Transfer Station and Convenience Center (ETS) in the neighborhoods surrounding the station. Using hedonic pricing method, BBER estimated the residential, commercial, and vacant property value loss associated with this construction. BBER also assessed the impacts of this project on business located near the proposed ETS. Since the proposed construction has two components in it -waste transfer station and convenience center, total economic impacts are estimated to each facility.

Key Findings

- The results indicate that the maximum spatial extent of the impact occurs about a half-mile away from the proposed ETS.
- A total of 414 properties including 203 commercial, 145 residential, and 66 vacant properties are impacted by the proposed ETS.
- Within a half-mile from proposed ETS, there are 125 existing businesses employing 2,170 persons and having \$439 million in annual sales.
- There is no evidence to support that 1) the potential traffic increase due to construction and operation of the proposed ETS leads to a reduction in business sales in the future and 2) there is significant increase of cost for the businesses in the project area due to the construction and operation of proposed ETS.
- Results indicate that only land values are impacted by the proposed ETS, not the value of building and improvement.
- Due to the existing conditions, the property values directly adjacent to the proposed ETS are estimated to be declined by 12%. Results show that for land price increased by \$7.38 in a linear fashion for each foot away from the ETS location.
- Land value is estimated to decline \$4.9 million on net due to the proposed EDT, or 6% of the total land values. Approximately 60% (\$3 million) of the impact is due to the proposed convenience center and the remaining 40% (\$2 million) is due to the proposed transfer station.
- Of the total land value loss, 85% (\$4.2 million) is estimated to be lost by commercial property owners, 4% (\$196 thousand) to be lost by residential property owners and 11% (\$520 thousands) by vacant property owners.

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1 INTRODUCTION

The City of Albuquerque (CABQ) commissioned University of New Mexico's Bureau of Business and Economic Research (BBER) to assess the economic impact of the proposed Edith Waste Transfer Station and Convenience Center on the surrounding areas. It is expected that the new transfer station would provide a convenient location where Solid Waste Department (SWD) collection trucks could unload to avoid driving directly to the Cerro Colorado Landfill. According to CABQ, the primary goal of building a transfer station is to reduce the overall cost of transporting waste to the landfill. This cost reduction is achieved through a decrease in driving miles and its associated relief on roads, reduced use of fuel, and increased convenience for the SWD collection trucks and other customers.

The principal question considered in this analysis is whether proximity to the proposed Edith Waste Transfer Station and Convenience Center's (ETS) planned location influences property values and business sales. Another issue examined is the maximum distance from this location that the proposed waste center's environmental effects on estimated property value and business sales could be identified.

Hedonic pricing models were used to find proximity-related impacts of a similar, existing convenience center and current conditions in the ETS area, then combine the two to answer both questions. A hedonic pricing model estimates the price of a good (in this case, property) using its inputs for factors that affect the price (such as its acreage, zoning type, or distance from a waste center). By comparing prices of properties distanced from the ETS to those close to it, value effects on properties closely impacted by the convenience center can be measured. Therefore, distance is the factor of interest in this study's models as it relates to property value.

Including current impacts associated with the ETS location, the total estimated loss of land value due to ETS would be \$4,928,644, 6% of the land's current value. Approximately 60% (\$3 million) of the impacts are estimated to be created due to the proposed convenience center and the remaining 40% (\$2 million) are due to the proposed transfer station. The results show that building/improvement value is not impacted by the distance from the ETS. There is no evidence to support that 1) the potential traffic increase due to construction and operation of the proposed ETS leads to a reduction in business sales in the future and 2) there is significant increase of cost for the businesses in the project area due to the construction and operation of proposed ETS.

The next section provides background information about proposed ETS. Chapter 3 provides the methodology and limitations of the study and the following chapter discusses the analysis results of various hedonic models including Eagle Rock land

value hedonic model, Eagle Rock building and improvement value hedonic model and ETS land value hedonic model. Chapter 5 presents the impacts of proposed ETS on land value. Impacts of traffic congestion are discussed in Chapter 6. Finally, Chapter 7 presents allocation of the economic impacts due to each component – transfer station and convenience center.

2 BACKGROUND ABOUT PROPOSED ETS

The ETS will be built in an approximately 22-acre area where a total of 590 parking spaces, including 173 collection truck spaces, 44 light-duty truck spaces and 319 automobile spaces, and 5.5 acres of landscape area will be accommodated. The transfer station structure will consist of an 11,000-square-foot, two-story administration building, a 62,000-square-foot transfer station, a 40,000-square-foot vehicle maintenance building, a 700-square-foot scale-house, 4,500- square-foot household waste and reuse drop-off, and 33,400 sq. ft. two-story parking structure. The estimated cost of construction is \$51.7 million.

Full evaluation of the ETS's impact on the surrounding population and businesses must consider both financial and environmental factors. The key environmental factors that impact the area are traffic, odors, litter, noise, and dust. Traffic impacts are a major issue because the activity of a transfer station results in an increase in daily road traffic. According to Wilson and Company's 2014 traffic impact analysis report, the transfer station is expected to increase the activity of collection vehicles, transfer trucks, and private citizens attending the convenience center. The report says that "based on the proposed schedule for the facility and the transfer operation, it is assumed new trips between the Transfer Station and collection routes will occur outside the AM, Mid-Day, or PM peak hours. Also, because existing collection vehicles currently depart the existing SWD facility in the AM and arrive back in the PM, those outbound and inbound trips are already accounted for in the existing background traffic. Therefore, the only project-related additional trips anticipated to occur during the peak hours in the study area are associated with transfer truck traveling between the new transfer station and the landfill." The study expects an increase of 65 round trips to the landfill for transfer trucks. Similarly, the expected increases in round trips for public vehicles are 12, 20 and 16 for the AM, Mid-day and PM peaks, respectively.

The other environmental factor associated with the ETS is odors, which can develop in transfer stations when solid wastes are stored for long periods of time on-site between collections. The dry air of Albuquerque will assist in suppressing anaerobic and aerobic decomposition that may help reduce odor. According to SWD, the transfer station's design plan addresses dust and odor control by building an enclosed transfer station where fresh air will be drawn in the perimeter of the building and pulled upward to ceiling air intakes and ducted to fan units at the sides of the building. The building also uses a

misting system during operation hours. The transfer station will have an enclosed loadout-level truck drive-through where the gaps between the bottom of the floor deck and the top of the transfer truck trailer will be sealed with a flexible rubber curtain. The outbound transfer trailers will be tarped in an enclosed porch before leaving the site. The enclosed area of the transfer station will be used to contain both dust and noise through the use of high-speed doors, site perimeter walls, and landscaping that buffers noise. To control litter, SWD plans to use tarps on transfer trailers and enforce a public tarp policy with fines. Given the availability of advance technology on waste compaction, weighing, conveying and processing, it is expected that the ETS would meet an above average standard in controlling dust, odor and noise.

The following section discusses the choice of methodology used for this analysis in detail.

3 METHODOLOGY AND LIMITATIONS

Generally, there are two methods used in the evaluation of environmental impacts - contingent valuation and revealed preference. In the contingent valuation method information is gathered using a hypothetical market situation. In the revealed preference method, actual behavior of individual buyers is analyzed by using market price data. The hedonic price method, a manifestation of revealed preference, is used in this study.

BBER used a hedonic pricing model to estimate the surrounding area's property value changes associated with the transfer station. In hedonic pricing modeling, housing prices are often used as the dependent variable and explanatory variables generally include structural characteristics of the house, neighborhood, and measure of environmental quality. A measure of the distance between each property/home or neighborhood to the nearest waste site, such as a transfer station, is used as one measure of the environmental externalities associated with the waste site.

BBER considered using a survey of property and business owners' willingness to pay to avoid the construction of the proposed waste transfer station. Since local communities were actively engaging¹ to avoid the construction of waste transfer station, conducting a survey to ask their willingness to pay to avoid the same facility may generate biased responses. If respondents believe that the selection of a waste transfer station site will depend on their willingness-to-pay survey responses, their responses may be biased. Furthermore, the community's perceived risk factors are not only supported by sensible beliefs but also by emotional factors stemming from unfamiliarity, uncontrollability and inescapability of the potential environmental risk factors associated with transfer station. This might further bias the survey responses. To avoid this potential bias and meet time

¹ Greater Gardner Neighborhood Association Appeal of M-1 Zoning at <http://www.abqets.com/about/resources/>

constraints, BBER did not conduct the survey of property owners in the surrounding area. However, the methodology of this study was developed under the assumption and understanding that risk perceptions that do not match scientific estimates of risk are not necessarily irrational.

Existing conditions are another pertinent consideration in analyzing the economic impact of the proposed waste transfer station. The planned location is not only already housing garbage trucks, but is also near other environment-impacting disamenities such as industrial and manufacturing facilities, railroads, and waste recycling plants. BBER attempted to find the existing environmental disamenities that would cause a reduction in property values.

In an urban situation, waste sites are often located near other industrial disamenities such as railroads, storage tanks, industrial noise, and air pollution. The distance to the waste site may be correlated with distances to other industrial disamenities. Omission of these industrial variables places an upward bias on coefficient estimates of the waste site's effect. Deaton and Hoehn's 2004 study shows that a 10% increase in distance from a Superfund site increases house prices by 0.32%. However, including the industrial variables, a 10% increase in distance results in only a 0.12% increase in house price.

The proposed Edith Waste Transfer Station location is in the Manufacturing Zone and is already accommodating waste collecting trucks and is surrounded by industrial and manufacturing businesses together with transportation and utility companies which may have eroded property values in that area. BBER developed a hedonic pricing model to estimate the price-distance function for two areas: 1) The ETS location with its existing factors and 2) The area surrounding Eagle Rock Convenience Center. BBER used Eagle Rock Convenience Center as the closest proxy of property value changes to represent the property value changes in the ETS's surrounding areas.

Estimation of the reduction in land value due to the construction of the ETS was accomplished in the following three steps. BBER estimated the percent reductions in property values associated with varying distances to Eagle Rock Convenience Center to serve as a model of impacts of the ETS. Second, a similar hedonic pricing model was used to find current value reductions relevant to distance from the ETS location due to existing negative conditions. Then, the difference between the Eagle Rock reductions and existing ETS impacts on property values was taken to find the net impact of the ETS. All three steps used both linear and quadratic hedonic pricing models.

Here are a few limitations of the study:

- ETS is currently nonexistent, so there is no data on the future impacts it may have on the surrounding residential, commercial, and industrial properties. Therefore, BBER utilized Eagle Rock Convenience Center as a basis of this study.
- This study uses distance to the Eagle Rock Convenience Center or the ETS location as well as acreage and zoning type to model land values. Due to data limitations variables such as accessibility, neighborhood amenities, and future land use could not be included in analysis. If any of these extraneous factors that need to be included are omitted, the coefficients estimated may be biased. However, if the ETS and Eagle Rock models' omitted variables impact property values to the same extent in both areas, the difference between the two models (the net loss function discussed in Chapter 4) would control for omitted variable bias. The Eagle Rock area is comparable to the ETS area in both zoning and location; therefore, the omitted variables could be similar as well.
- Due to unavailability of market price data, BBER used property value assessments from the Bernalillo County Assessor's data². Tax assessments can vary widely from actual market prices because they're general, multi-month averages based on past information. Market prices fluctuate often relative to assessor's values due to economic conditions, new or anticipated amenities and disamenities, and recent issues on-site.

3.1 Eagle Rock Convenience Center

Estimation of the economic impact of the proposed ETS is not straightforward for the following reasons. First, it is currently nonexistent, so there is no data on the future impacts it may have on the surrounding residential, commercial, and industrial properties. Second, there have been studies conducted elsewhere on the environmental impacts of landfill sites, Superfund sites³ and waste transfer stations. However, their context is very different in terms of the extent of coverage, property values, supply and demand of land and property, and other environmental amenities and disamenities. As a starting point, BBER developed three separate hedonic pricing models for each trash drop-off site: Eagle Rock, Don Reservoir, and Montessa Park Convenience Centers. Don Reservoir and Montessa Park convenience centers are located in isolated areas separated from residential and commercial properties. There are only 14 properties within a mile of Montessa Park Convenience Center. Therefore, BBER rejected the analysis. Within one mile of Don Reservoir Convenience Center, there were about 3048 properties including 39 commercial, 2761 residential, and 248 vacant properties. Despite the availability of data for Don Reservoir area, this convenience center is not

² For detail on Assessor's methodology -

http://www.berncounty.gov/uploads/FileLinks/177427c12b0846a5a59498f4f55bd2df/Assessor_Annual_Report_2016.pdf

³ Any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment.

representative in terms of its capacity and its neighborhood location. In fact, both the convenience centers and neighboring areas are not representative of the ETS location. The remaining third option is Eagle Rock Convenience Center, where 3145 properties, including 225 commercial, 2554 residential, and 366 vacant properties, exist within a mile from the convenience center. Therefore, BBER used this convenience center to model the proposed waste transfer station and convenience center. BBER developed two separate models-- a land value model and building/improvement value model-- to estimate the impacts of disamenities associated with Eagle Rock Convenience Center. BBER developed four different regression models to estimate the impact that distance from the convenience center may have on property values using four distance bands: 0 to 0.5 miles, 0 to 1 miles, 0 to 1.5 miles and 0 to 2 miles. Only the 0- to 1-mile model generated significant results. The following two models were used to estimate the impacts of Convenience Center on land value and building and improvement value, respectively. The next two sections present the findings from the hedonic pricing analysis.

4 RESULTS

4.1 Eagle Rock Land Value Model

Table 1 presents the regression analysis results that describe the statistical relationship between land value in dollars per acre and explanatory variables such as the value of building and improvement, lot size acreage, distance between the property and the Eagle Rock Convenience Center, distance squared, and whether the lot is residential or commercial. The R^2 value is 0.30, meaning that about 30% of the variation in land price is explained by the variation in these explanatory variables. All of the variables are significant at a 95% confidence level. The coefficient for *Building /improvement value* is 0.015 in both the linear and quadratic models. This coefficient indicates that an additional \$1000 value increase in building and improvement leads to an approximately \$15 increase in land value. The *Acreage* variable has a coefficient of -7893 in the linear model and -7727 in the quadratic model. That means that the per-acre land value decreases with increasing lot size. Every additional acre added to a lot results in a land price reduction of \$7,893 or \$7,727 per acre.

The principal question considered in this analysis is whether proximity to Eagle Rock Convenience Center has an effect on property value. Another issue examined using this model is the maximum distance from the convenience center that its environmental effects on hedonic prices could be identified. The linear and quadratic model answer both questions. The coefficient of the distance variable is 2.5 in the linear model; however, it is not statistically significant. However, that relationship is better represented by quadratic model where the land price is affected by the distance in a non-linear way. Land price decreases more slowly with proximity to the convenience center and

increases with greater distance. The convenience center seems to have no impact on land price when the lot is at least 2,631 feet from it. Compared to vacant property, residential lands have an additional \$259,915 value per acre and commercial lands have a \$95,887 greater value per acre. Similar values were estimated from quadratic models. To further capture the distance variable in the model, a dummy variable was created to find the land price differences between properties located within a half-mile and farther than a half-mile. The coefficient of this variable is -32000 in the linear model and -52730 in the quadratic model, which means that controlling for other factors, the properties located within a half-mile of the convenience center are valued \$32,000 more or \$52,730 more compared to properties located farther away. Please note that these value differences are not related to the existence of the convenience center.

Table 1 Coefficients from Land Value Hedonic Linear and Quadratic Regression Models

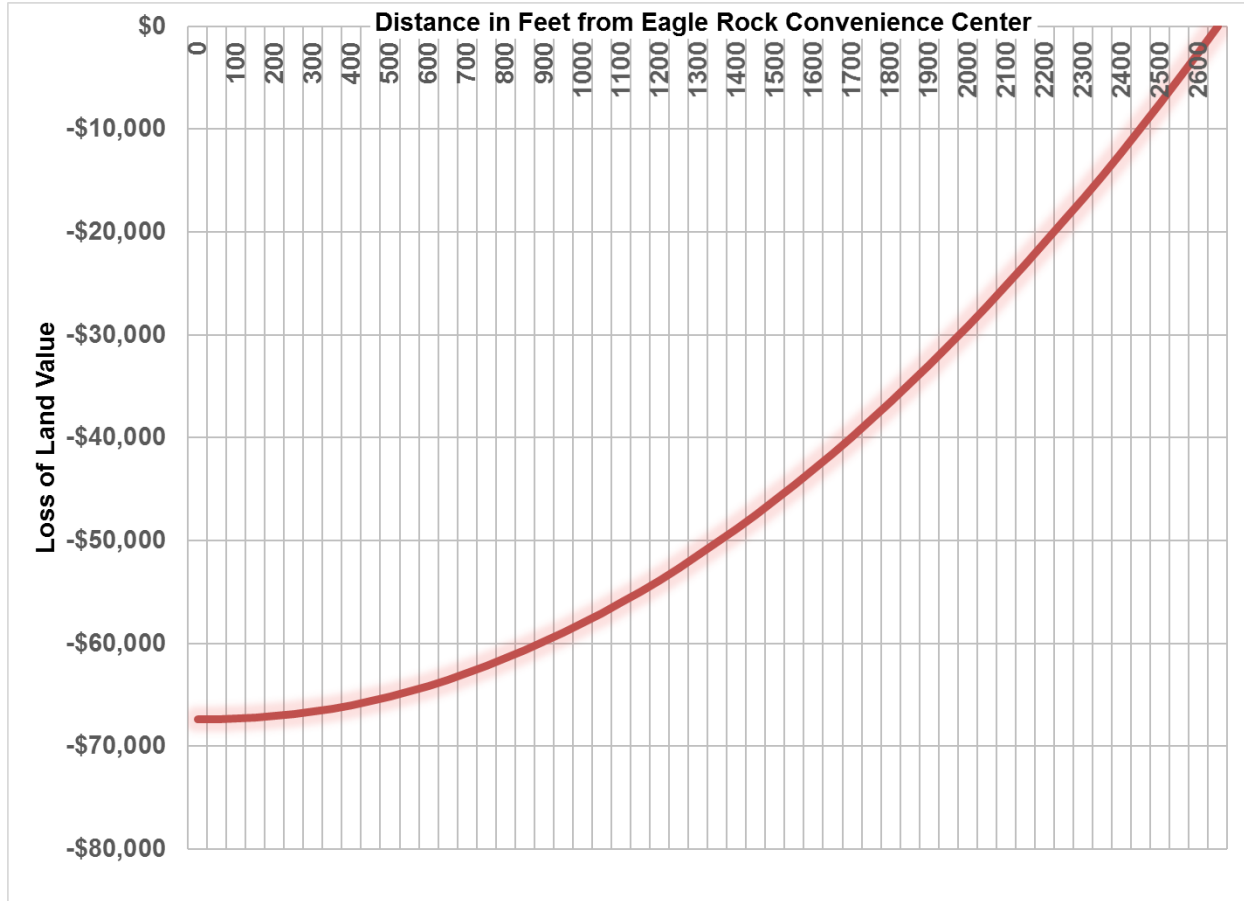
Variables	Coefficients from Linear Model	p-value	Coefficients from Quadratic Model	p-value
Constant	166159.000	<.0001	81029.000	<.0001
Building/improvement value	0.015	0.006	0.015	0.0006
Acreage	-7893.467	0.0003	-7727.560	<.0001
Distance	2.473	0.5096	51.243	<.0001
Distance Square	-	-	-0.010	<.0001
Residential	259915	<.0001	253605.000	<.0001
Commercial	95887	<.0001	96618.000	<.0001
Land value dummy	-32000.000	<.0001	-52730.000	<.0001

Source: BBER estimation based on Bernalillo County Assessor's property value data

Figure 1 shows the relationship between land price changes and distance from the Eagle Rock Convenience Center. As the graph shows, the relationship between price and distance is not linear. Average land price per acre decreases with distance at different rates. The average land price drops by \$67,300 per acre⁴ in the adjoining area to the convenience center. The land value reduction decreases more and more quickly with growing distance from the center. BBER's estimation shows that there was no reduction in land value beyond 2631 feet from the center. Please note that this decrease in land price is the result of the equilibrium demand and supply of land in the past. It is assumed that both land buyers and sellers have responded according to the land market equilibrium condition in that area.

⁴ This drop is about 18% of the total value which is very high compared with what is reported in the literature (i.e. 6 to 12%). This may be due to omitted variable bias.

Figure 1 The Reduction of Land Value at Varying Distances from the Eagle Rock Convenience Center.



4.2 Eagle Rock Building/Improvement Value Model

Table 2 presents the coefficients from building/improvement value hedonic linear and quadratic distance models. Please note that all the variables except distance and distance squared are significant. This is indicated by less than 0.05 probability value in all variables except *Distance* and *Distance square*. That shows that the surrounding properties' building and improvement value is not impacted by the Eagle Rock Convenience Center. As expected, building and improvement value should remain the same regardless of distance from the convenience center because the cost of building and improvement is likely the same in all areas. The results of this model indicate that only the land value (not the building/improvement value) is impacted by the trash drop-off facility in the neighborhood.

Table 2 Coefficient Results from Building/Improvement Value Hedonic Linear and Quadratic Regression Models

Variables	Coefficients from Linear Model	P-value	Coefficients from Quadratic Model	p-value
Constant	-250594	<.0001	-273541	<.0001
Total land value	0.9032	<.0001	0.9038	<.0001
Acreage	62454	<.0001	62402	<.0001
Distance	23.22077	0.1196	42.85302	0.3651
Distance Square	-	-	-0.00299	0.6619
Residential	307406	<.0001	305665	<.0001
Commercial	530964	<.0001	531043	<.0001
Land value dummy	-6743.3444	0.8574	-12326	0.7559

Source: BBER estimation based on Bernalillo County Assessor's property value data

4.3 ETS Land Value Model

BBER conducted a separate hedonic pricing analysis for properties around the proposed waste transfer station to assess the impacts of existing factors on the surrounding areas' property values. Some of these factors have already been impacting the property values in the surrounding areas. The Solid Waste Department's customer and garbage truck parking and traffic are factors, as well as other local industrial and commercial activities which may produce negative externalities. Since findings regarding the Eagle Rock Convenience Center show that the impact on property values reached up to a half-mile, BBER developed a hedonic pricing model for properties located within a mile from the ETS.

A total of 577 properties, including 174 commercial properties, 319 residential properties and 84 vacant properties near the proposed waste transfer station were analyzed. Table 3 presents coefficient results from a hedonic regression of land values from linear and quadratic distance models. Only the linear model's distance variable is significant and the quadratic distance model's distance and distance squared variables are found to be statistically not significant. This indicates that the disamenities associated with Solid Waste Department's operations and other industrial and commercial activities in the area are more or less uniformly distributed in the surrounding area. The coefficient of the distance variable is 7.38 and is statistically significant. For each foot of distance away from the ETS location, land price increased by \$7.38 in a linear fashion. The red lines in Figure 2 and Figure 3 demonstrate the property value loss in percentages and dollars, respectively. Average land price per acre in the neighborhoods surrounding the ETS is \$159,747. Land values are already nearly \$19,500 lower or 12% lower in the area adjacent to the location because of the Solid Waste Department's operations and other industrial and commercial activities. Please note that BBER did not consider any negative factors that may have existed before the construction of the Eagle Rock

Convenience Center facility. Further analysis of the impacts is presented in the next section.

Table 3 Coefficient Results from Land Value Hedonic Regression from Linear and Quadratic Distance Models

Variables	Coefficients from Linear Model	P-value	Coefficients from Quadratic Model	p-value
Constant	125749	<.0001	108627	0.0054
Improvement value	0.01529	0.0002	0.01506	0.0003
Acreage	-8295.86109	<.0001	-8206.84795	<.0001
Distance	7.37953	0.0432	18.38687	0.4499
Distance Square	-	-	-0.00138	0.6473
Residential	-49093	<.0001	-49181	<.0001
Commercial	46764	<.0001	46836	<.0001
Land value dummy	-4911.99041	0.62	-8984.51267	0.5001

Source: BBER estimation based on Bernalillo County Assessor's property value data

5 IMPACTS OF PROPOSED ETS ON LAND VALUE

Estimation of the reduction in land value due to the construction of the proposed waste transfer station was accomplished in the following three steps. First, BBER developed a hedonic pricing model to estimate the land value reduction in the surrounding areas of Eagle Rock Convenience Center. Using a hedonic pricing model, BBER estimated the land value loss at varying distances from Eagle Rock Convenience Center. The blue line in Figure 2 and Figure 3 shows the estimated reduction in land value at varying distances from the convenience center. Figure 2 presents the percent reduction in land value, while Figure 3 represents the loss in actual dollars. Please note that the average price of land per acre in the Eagle Rock area is 231% higher than in the ETS area. BBER used the percentage point from the Eagle Rock model to estimate land prices in the proposed waste transfer station area.

Our findings suggest a nearly 18% impact on the average value of land adjacent to the ETS, not accounting for existing factors. This statistic is borrowed from the Eagle Rock Convenience Center model. The impact decreases at decreasing rate with proximity to the ETS. For example, the estimated land value reduction is 14% at 1350 feet from the proposed station, compared to just 8% at 2000 feet away. Finally, the value reduction drops to 0% at 2631 feet.

The red line in Figure 2 estimates the reduction in land price due to existing conditions of the ETS location. Our estimation shows that the value of land adjacent to the ETS is 12% lower due to existing factors. For each foot of distance away from the ETS, land price increased by \$7.38 linearly. The red line in Figures 2 and 3 shows this relationship. The percent reduction in land value (resulting from the distance variable) for the adjoining properties is relatively higher in both models (18% and 12%) than what

literature generally reports (6 to 12%. Please see Appendix A for details). This may be due to omitted variable bias. Since both the Eagle Rock model and ETS location models used similar explanatory variables and have relatively high coefficients for the distance variable, BBER is using the difference of these coefficients to estimate the net impact of the ETS, which will eliminate the problem of omitted variable bias.

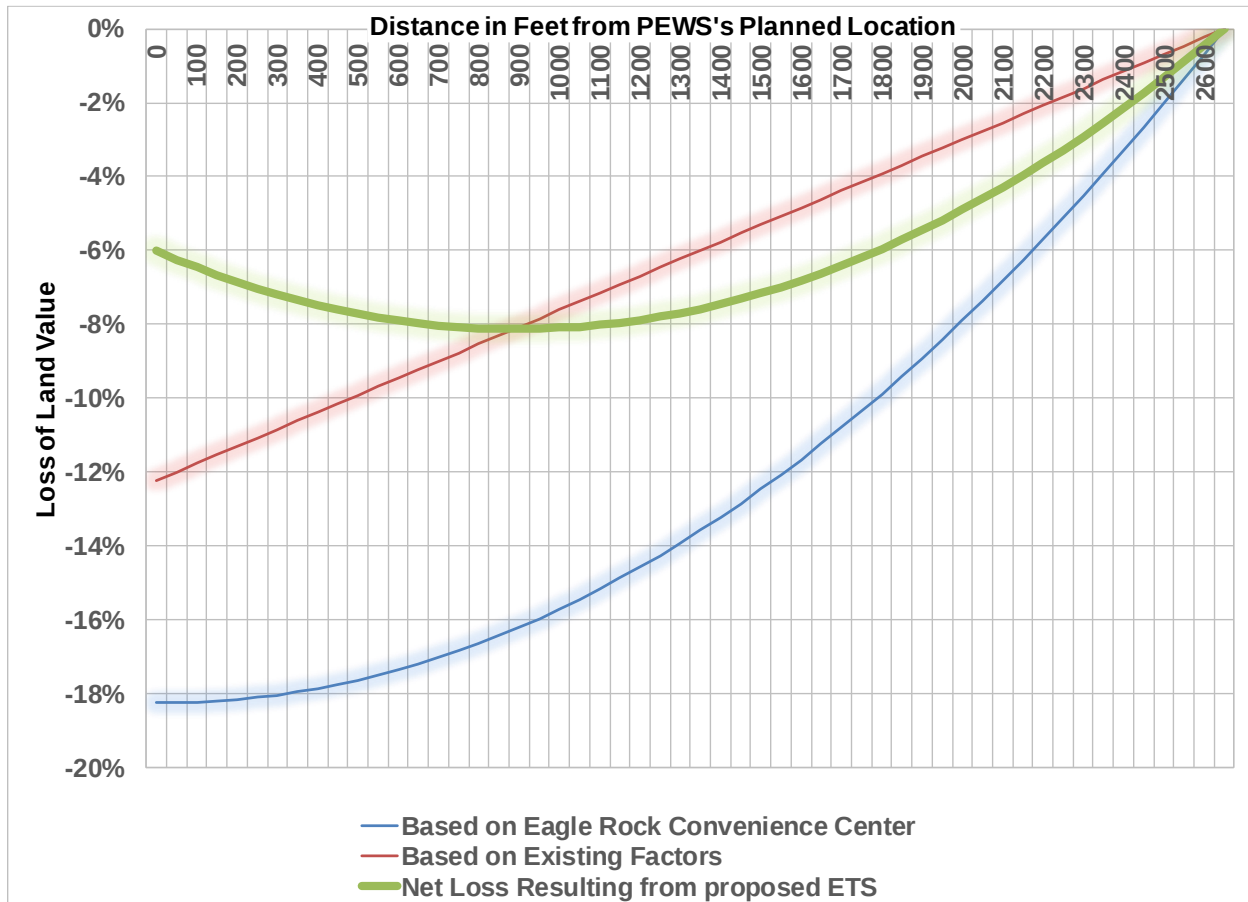
After accounting for existing factors associated with the transfer station's proposed location, BBER estimated the net reduction in land value due to the proposed transfer station and convenience center, as shown by the green line in Figures 2 and 3. The net land price reduction starts at 6% for the adjoining properties, reaches its maximum (8%) at 1050 feet away, and then continuously declines until it reaches 0% at 2631 feet away.

Eshet et al.'s 2006 study "Measuring Externalities of Waste Transfer Stations in Israel Using Hedonic Pricing" used a hedonic valuation method to examine the impact of waste transfer facilities in Israel. The study shows that the maximum impacts occurred about two miles from a transfer station. According to the study, an additional 1% gain in distance from the local transfer station was associated with a 0.06% rise in average house price, controlling for other factors.

The daily amount of waste collected in those transfer stations varied from 70 tons to 700 tons per day. About half of the waste was organic, as the local population ate a produce-rich diet and lacked sink garbage disposal devices. Odor problems were more significant because the transfer stations were operated in open-air facilities. It is expected that only 15.1% (14.6% from food national average plus 0.5% from yard trimming in Albuquerque) of the total waste in the ETS will come from food and green materials, including yard trimmings. Therefore, compared to the Israeli transfer station, significantly less decomposable materials are expected to be processed in the ETS. Our results show that the net 6% loss of land value adjacent to the proposed convenience center is similar to the results from the Israeli transfer station study.

BBER also reviewed 17 hedonic valuation studies concerning the effects of landfills on property values (please see Appendix A). Landfills present many of the same types of concern for communities on a lesser scale. The average property value reduction derived from these landfill studies was estimated to be about 12% for adjacent properties. However, research indicates that landfill impacts extended approximately 2.5 to 4 miles from the site, compared to an estimated 2-mile impact radius for the Israeli transfer facilities.

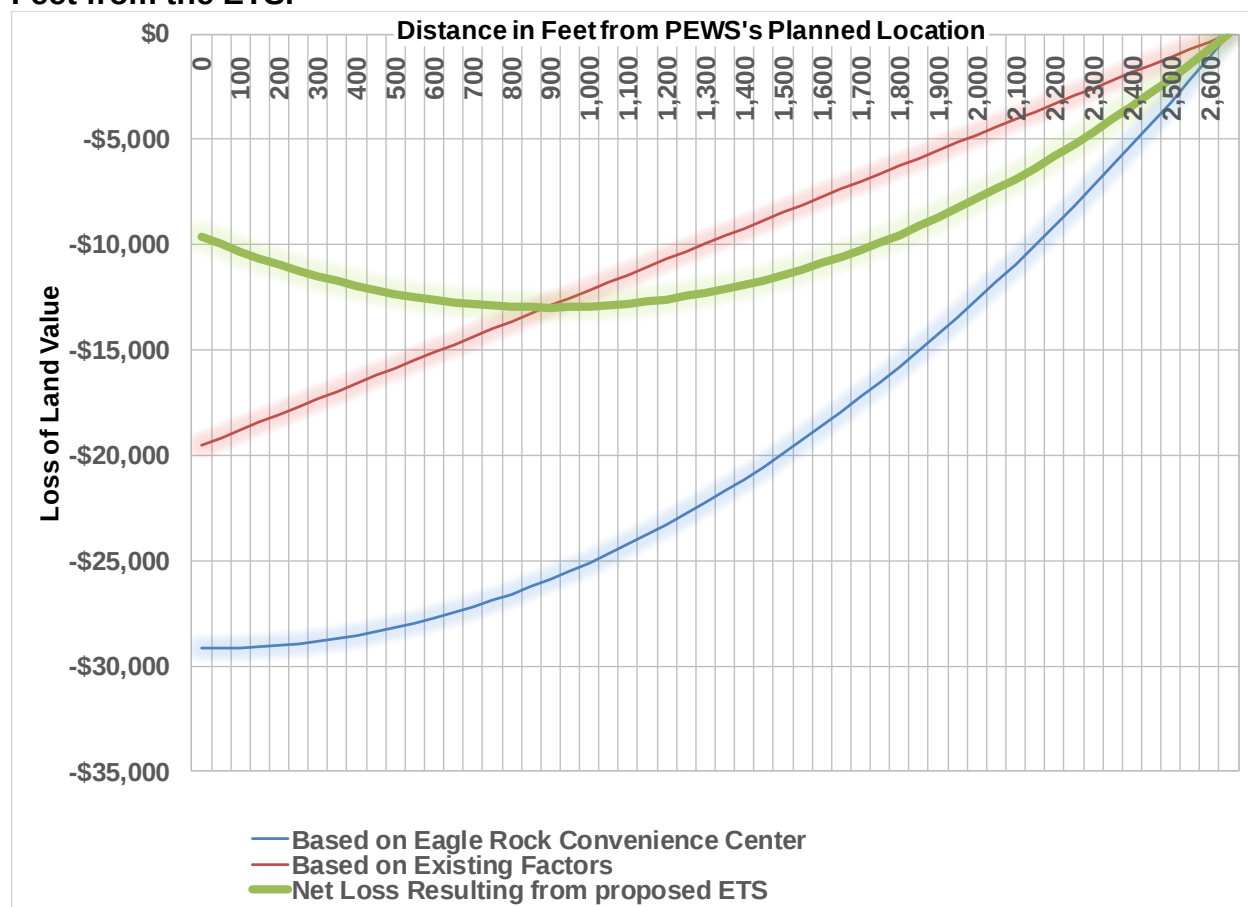
Figure 2 Estimated Reductions in Land Value (%) in Relation to Distances in Feet from the ETS.



BBER predicted average per-acre land prices for properties within a half-mile from the ETS location by their proximity to the station location. The red line in Figure 4 represents the average land price per acre for lots surrounding the ETS, accounting for the percent reductions estimated from the Eagle Rock model. Directly next to the proposed location, the Eagle Rock model predicts an 18% drop in the transfer station's average land value (\$159,747), yielding \$130,606 as the average price per acre. Following the decreasing percent reductions resulting from the Eagle Rock model, predicted average land values increase at a growing rate with distance from the transfer station. However, these average land prices exclude existing negative factors in the ETS area. To account for these existing conditions, BBER first predicted average land values based on the transfer station model discussed in Chapter 5, charted in the green line in Figure 4. This model estimates a 12% average value reduction for properties adjacent to the transfer station due to current SWD and industrial activity. Accounting for this 12% decrease, these properties have a predicted \$140,217 per-acre average value. Prices increase linearly with growing distance from the ETS. Taking the difference between the Eagle

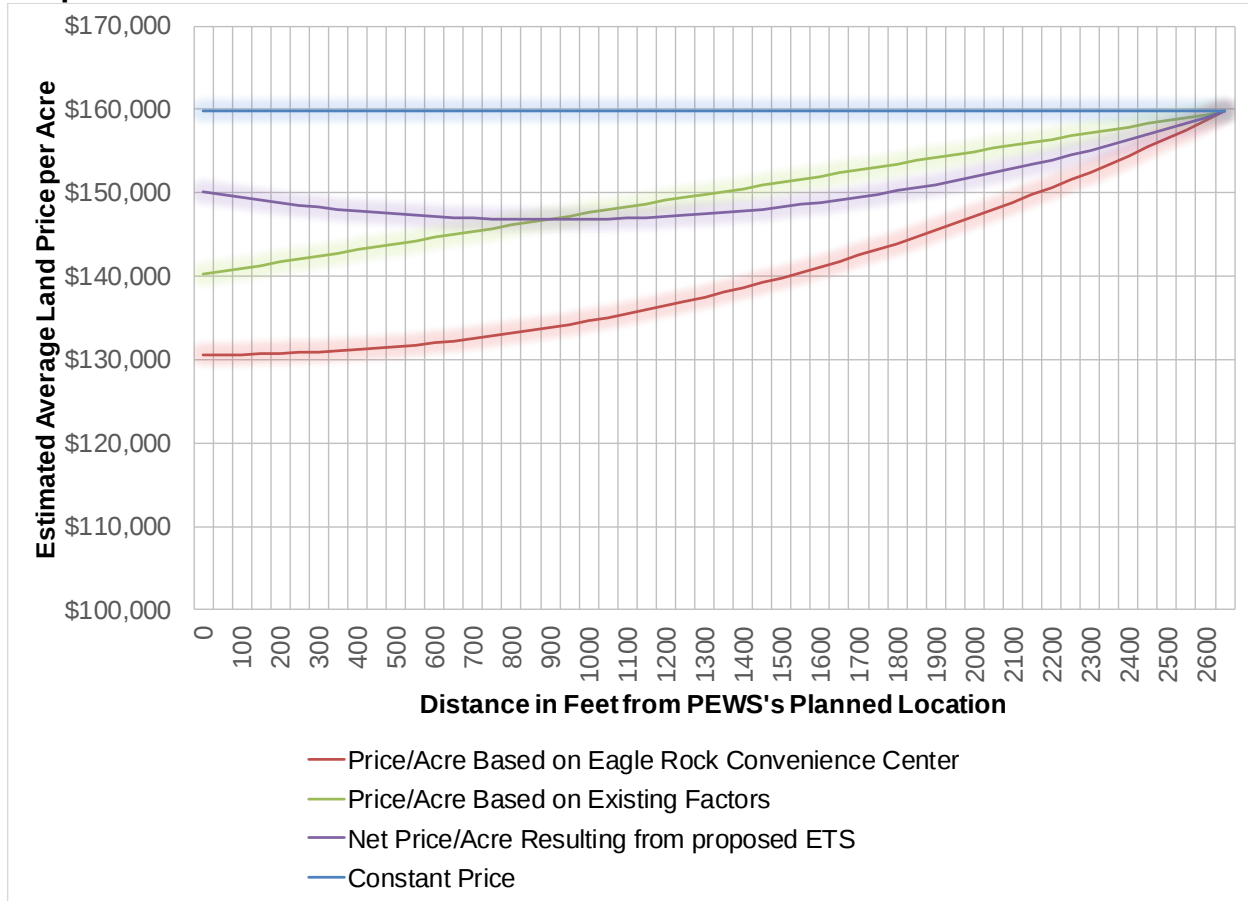
Rock and ETS models, the estimated average price per acre is reduced 6% for adjacent properties.

Figure 3 Predicted Reduction in Per Acre Land Prices in Relation to Distances in Feet from the ETS.



Including both existing factors and the ETS, properties next to the planned station location would have an estimated \$150,137 average value per acre. This net price estimate is represented by the purple line in Figure 4. Mimicking the net loss function discussed above, average price per acre decreases at a decreasing rate with increased distance from the ETS. It reaches its minimum at 1050 feet, then increases at an increasing rate. The blue line in Figure 4 presents the average land price per acre for all properties within a half-mile of the station. Because this average disregards existing conditions and the existence of the proposed ETS (which are relevant to distance), it remains at a steady \$159,747.

Figure 4 Predicted Average Per-Acre Land Prices in Relation to Distance from the Proposed Waste Transfer Station.



To estimate the total value impacts of the ETS on its surrounding properties, BBER first calculated the current total property and land value within each 1 foot increment between the ETS location and just over a half-mile from it. Then the net loss percent was multiplied with total land values. The net loss of land value in Table 4 accounts for effects of the ETS given existing negative impacts on land values. It is important to note that these losses were calculated using the percent reductions resulting from the models examining the Eagle Rock Convenience Center area and existing conditions in the ETS area. In other words, the proportionate land value losses drop steadily with growing distance from the ETS location.

Table 4 Estimated Loss of Land Value in Surrounding Properties

Distance (in feet)	No. of properties	Total property value	Total land value	Land value loss based on Eagle Rock model	Land value loss based on existing conditions	Net loss of land value
0-500	20	\$10,043,800	\$6,975,000	-\$1,262,077	-\$797,337	-\$464,740
501-1000	38	\$25,820,552	\$9,859,480	-\$1,659,448	-\$868,472	-\$790,976
1001-1500	75	\$30,486,756	\$15,510,324	-\$2,193,748	-\$999,284	-\$1,194,464
1501-2000	141	\$80,176,808	\$31,107,829	-\$3,145,153	-\$1,264,958	-\$1,880,194
2001-2500	125	\$37,118,934	\$17,382,324	-\$937,423	-\$341,843	-\$595,580
2501 and more	15	\$1,281,869	\$518,092	-\$4,079	-\$1,389	-\$2,690
Total	414	\$184,928,719	\$81,353,049	-\$9,201,926	-\$4,273,282	-\$4,928,644

Source: BBER estimation based on Bernalillo County Assessor's property value data

After considering losses by distance from the ETS location, BBER determined losses by property type, as detailed in Table 5. Again, the net loss estimates total impacts of the ETS accounting for existing conditions. Commercial land faced the highest net losses of land value at \$4.2 million. The second highest net loss (\$519 thousand) is estimated for vacant properties. The net loss for all land value is estimated at \$4.9 million, 6% of the land's current value.

Table 5 Estimated Loss of Land Value by Property Class

Property type	No. of properties	Total property value	Total land value	Land value loss based on Eagle Rock model	Land value loss based on existing conditions	Net loss of land value
Commercial	203	\$161,179,542	\$69,485,800	-\$7,909,712	-\$3,696,868	-\$4,212,844
Residential	145	\$15,719,274	\$4,092,746	-\$327,375	-\$131,236	-\$196,139
Vaccant	66	\$8,029,903	\$7,774,503	-\$964,839	-\$445,178	-\$519,661
Grand Total	414	\$184,928,719	\$81,353,049	-\$9,201,926	-\$4,273,282	-\$4,928,644

Source: BBER estimation based on Bernalillo County Assessor's property value data

6 IMPACTS OF TRAFFIC CONGESTION ON BUSINESSES

Using *referenceUSA* data, BBER analyzed the employment and sales of businesses located within a half-mile radius from the proposed ETS's planned location, as well as some businesses on or near 2nd Street⁵ where transfer station-related congestion may occur. Based on BBER experience with using this kind of business database, the data may have a significant margin of error. However, *referenceUSA* claims that they provide the highest quality data in the industry. They also claim that their databases are

⁵ This is the part of the City selected project area which is farther away than a half-mile from proposed transfer station. Please see in Appendix D for the City selected project area.

continuously updated from more than 5,000 public sources, and that they make more than 24 million phone calls annually to verify any collected information⁶.

According to the *referenceUSA* database, there are about 125 businesses within a half-mile radius⁷ from ETS that employ nearly 2200 people with average employment of 19 (Table 6). The largest employing industry sectors are construction (1,016), wholesale trade (405), retail trade (367), professional services (95), and administrative & support & waste (57). The largest number of business belong to retail trade (22) followed by construction and wholesale (19 each), other services (18), manufacturing and professional services (11 each) and administrative, support and waste (8). According to *referenceUSA*, the employment and sales data were updated in 2016 and 2017. Please note that the number of parcel and the total number of residential, commercial and vacant properties are different because more than one residential and commercial properties can be accommodated in a parcel also some commercial properties may be vacant.

Table 7 Presents the number of business, employment and sales by street. The highest number of businesses are located on Edith Boulevard (31), followed by 2nd street (25), Industrial Ave (20), Rankin Road (14) and Comanche Road (12). Businesses located on Industrial Avenue have the highest sales (\$109 million) followed by businesses on Edith Boulevard (\$101 million), Rankin Road (\$65 million) and Comanche Rd (\$35 million). Businesses located at Edith Boulevard employ the largest number of people (907) followed by businesses located on Comanche Rd (383), Industrial Ave. (362) and Rankin Rd (237).

⁶ referenceUSA claims can be found at: <http://www.referenceusa.com/Static/DataQuality>.

⁷ Based on the findings of Eagle Rock Model, BBER changed and expanded the City's given project area.

Table 6 Business Located in the Neighborhood of ETS

Industry Sector	No. of Businesses	Employment	Sales
Utilities	1	12	\$2,430,000
Construction	19	1016	\$83,229,000
Manufacturing	11	62	\$16,543,000
Retail Trade	22	367	\$100,431,000
Transportation & Warehousing	4	34	\$4,259,000
Wholesale Trade	19	405	\$187,643,000
Information	1	4	\$1,395,000
Real Estate and Rental and Leasing	5	42	\$6,635,000
Professional Services	11	95	\$22,699,000
Administrative & Support & Waste Management and Remedial Services	8	57	\$6,883,000
Health Care and Social Assistance	2	10	\$903,000
Arts, Entertainment, and Recreation	1	1	\$137,000
Accommodation and Food Services	1	8	\$377,000
Other Services (except public administration)	18	57	\$5,393,000
Unclassified	2	-	-
Grand Total	125	2170	\$438,957,000

Source: BBER estimation based on *referenceUSA* data

Literature review related to congestion impacts show that the sensitivity to traffic congestion varies by industry sector. Impacts are attributable to differences in each industry sector's mix of required inputs and hence its reliance on access to skilled labor, access to specialized inputs, and a transportation based market area. The industry sector generally impacted by traffic congestion are wholesale trade; professional, scientific, and technical services; real estate and rental and leasing; information technology; and construction. Some of the actions that business may take to address traffic congestions are changing departure and arrival time for deliveries and shipments, consolidating shipments or deliveries, giving real-time traffic information to drivers, etc. Some businesses such as convenience stores and restaurants may have additional customers because of the proposed ETS.

Table 7 No. of Businesses Located by Street

Street	No. of Businesses	Employment	Sales
2nd Street	25	128	\$46,744,000
Carlton St.	3	47	\$24,037,000
Carmony Rd.	10	61	\$52,500,000
Comanche Rd	12	383	\$35,239,000
Edith Blvd.	31	907	\$100,758,000
Griegos Rd.	5	16	\$1,154,000
Headingly Ave.	2	20	\$1,880,000
Industrial Ave.	20	362	\$109,133,000
Mescalero Rd.	3	9	\$2,146,000
Rankin Rd.	14	237	\$65,366,000
Total	125	2170	\$438,957,000

Source: BBER estimation based on *referenceUSA* data

There are various indicators that can be used to evaluate traffic congestion. Based on availability of the data and traffic impact analysis report, BBER used volume to capacity ratio (V/C). V/C ratio is on the most used index to assess traffic status in cities, in which V is the total number of vehicles passing a point in one hour and C for the maximum number of vehicles that can pass a certain point at the reasonable traffic condition. In other words, it represents the sufficiency of an intersection to accommodate the vehicular demand. According to Federal Highway Administration, A V/C ratio of less than 0.85 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the V/C ratio approaches 1.0, traffic flow may become unstable, and delay and queuing condition may occur. Once the demand exceeds the capacity, where a V/C ratio is more than 1.0, traffic flow is unstable and excessive delay and queuing is expected.

According to Mid-Region Council of Government Transportation Analysis and Querying Application 2014 data, the peak hour V/C during AM hours at Comanche Road/Griegos Road and Edith Boulevard is less than 1.0 in all directions, including 0.25 to 0.5 northbound and southbound on Edith and 0.5 to 0.75 on eastbound side of Comanche. The V/C ratio is highest (0.75 to 1.0) between 2nd Street and Edith. Similarly, the peak hour V/C ratio during PM hours at this intersection is under 0.57, except from the 2nd Street to Edith which is over 1.0. This indicates that the peak hour traffic volume in the afternoon between Edith and 2nd Street exceeds the roads' capacity.

Peak hour average speed is also used to measure congestion. Although the free-flow speed along the Comanche Road/Griegos Road and Edith was 20 to 50 miles per hour, the peak hour average speed was 20 to 35 miles per hour along Comanche/Griegos Road. The peak hour average speed is between 35 and 50 along Edith Boulevard on the south and north sides of Comanche.

Given the prevailing V/C ratios and average speed and Solid Waste Department's trash truck schedule, it is expected that there will not be a significant traffic volume increase in the intersection of Edith and Comanche or nearby intersections. According to Wilson and Company's 2014 traffic impact analysis report, only 65 waste transfer trailers in the mid-day and 65 trailers in the afternoon would be added to the existing traffic. It is assumed that all transfer vehicles will travel to and from Interstate 25 via Comanche Road, accessing the site via the Edith Boulevard driveway. A total of 450 additional public vehicles will be added between 8 AM and 5 PM, with only 24 vehicles in the morning peak hours, 40 vehicles in the mid-day peak hours, and 32 in the afternoon peak hours (please see Appendix D for the service area that Edith convenience center will be serving). The traffic impact analysis report concludes that "the year 2013 and 2018 study area roadway network will not experience any additional deficiencies due to traffic generated by the project." BBER did not venture to quantify the impact of congestion on business sales because above indicator suggested that additional cost of doing business associated with proposed ETS is expected to be insignificant.

Table 8 Net Changes in Traffic Due to Construction of ETS and Convenience Center

Vehicle Type	Existing Conditions: Trips per day	With Transfer Station: Anticipated Trips per Day	Change during peak traffic periods (number of vehicles)
Transfer Trailers	None	130	Morning:0, Mid-day:65 Afternoon:65
Collection Vehicles	500	500	None
Public Vehicles	None	450	Morning:24 Mid-day:40 Afternoon:32
Employees	253	253	None

Source: Traffic Impact Analysis conducted by Wilson and Company, 2014

7 IMPACT ALLOCATION

Since the ETS will accommodate the convenience center where households and businesses can dump allowable trash, BBER assessed economic impact of each facility - transfer station and convenience center separately. To accomplish this, the externalities associated with each facility needed to be assessed separately.

7.1 Operation of Transfer Station

As mentioned in the introduction section, according to SWD, the transfer station will be operated in a manner that does not cause public nuisance or create a potential hazard to public health, welfare or the environment. Transfer vehicles are expected to be parked at the Cerro Colorado Landfill. The station will have a transfer trailer staging area for trailers waiting to move into the transfer trailer tunnel. As far as transfer truck trip is concerned, new trips associated with the transfer station will be due to the estimated 65 loads per day, or 130 trips. These transfer truck trip activities will be made between 8:30 am to 4 pm. No transfer trailers will be parked on public streets or roads except under emergency conditions. The facility will be located at a distance greater than 250 feet from the nearest permanent residence, school, hospital or church. Moreover, the transfer station operations would implement a multi-faceted litter control program to mitigate litter and debris migrating offsite. The minimization of odor generation and control of odors in the areas surrounding it would be achieved by specified procedures and design features. There will be effective provisions vectors, noise and dust control in place. These provisions provide evidences of controlled operation in the 62,000 square feet enclosed area of transfer station where the externalities will be minimized.

7.2 Operation of Convenience Center

As stated in the Wilson and Company's 2014 traffic impact analysis report, the proposed diversion of trips from Eagle Rock, Montessa Park and Don Reservoir convenience centers is assumed to be 30% of the total customers (or 54% of Eagle Rock customers) using these facility during the AM, Mid-day, and PM peak hours. Diverted, new trips to the ETS site were assumed to come to/from location proximate to the existing sites. Total new trips expected to be diverted from the three existing convenience centers to the new convenience center are 225 in/225 out each week day; and 12 in/12 out during the AM Peak, 20 in/20 out during the Mid-day peak and 16 in/16 out during the PM peak.

Since convenience center will be used by different walks of people, communities and businesses, it is challenging to train them to properly dump their wastes. Sometimes, they may not cover the load entering the convenience center which may not be secure. In some situations, people may not know how to properly sort their wastes and include only the acceptable items. Other externalities associated with convenience center are traffic, odors, dust, litter, and noise. Despite all these possibilities, there were very few complains recorded about the Eagle Rock convenience center (Please see Appendix C) during the last two years.

7.3 Impact Allocation

Given the proposed operation by SWD, the total impact can be separated between the transfer station and convenience center. The proposed waste transfer station and convenience center will attain to some extent economies of scale in its operation because of efficient utilization of its space for administration, scale house, and parking structure and use of exit and entry driveways. The same way environmental impacts of these two entities would be less than two separate entities combined. The transfer station will be there for a long time and is a stable operation in the area. It is expected that the use of convenience center may be improved overtime because community members and businesses learn to properly handle the waste and dump properly in the convenience center.

The estimated total land value loss due to the proposed ETS and convenience center is nearly \$5 million. This is a situation where two waste sites are combined. Using Deaton and Hoehn's 2004 study that shows that accounting for the distance factor from an additional industrial waste site, the coefficient was reduced by 37.5% of the total (from 0.32 to 0.12). Using this ratio, the land value loss due to transfer station would be nearly \$2 million (37.5% of the \$5 million). The remaining impacts of \$3 million would be due to the convenience center attached with the transfer station.

BBER attempted to allocate impacts by the extent of use of Eagle Rock convenience center and ETS. According to SWD data, the proposed ETS will accommodate about 54% of the Eagle Rock customers, it is reasonable to assume that 54% of the total impact (\$2.7 million) can be allocated to ETS convenience center and the remaining 46% (\$2.3 million) of the impact can be allocated to the transfer station. Either criteria show that approximately 60% of the impact is allocated to the convenience center and 40% is allocated to transfer station.

Appendix A. Literature Review on Impacts of Waste Transfer Station and Landfill Site

Study	Time Frame	Study Area and Sample size	Relevant Findings
Kinnaman, T.C. 2009. A Landfill Closure and Housing Values. <i>Contemporary Economic Policy</i> 27(3):380-389.	1957-2005	Lewisburg, Pennsylvania 711 dwellings	Property values are estimated to increase by 34% for each mile of distance, regardless of whether the landfill was open or closed. This is greater than that achieved by the previous literature, could be attributable to the fact that all data gathered for this study were within 1 mile of the landfill.
Gamble, H.B., R.H. Downing, J. Shortly, and D.J. Epp. 1982. Effects of Solid Waste Disposal Sites on Community Development and Residential Property Values. Institute for Research on Land Water Resources, The Penn State University.	1977-1979	Monroeville and North Versailles, Pennsylvania	Property values increase by 5-7% per mile of distance from a landfill.
Havlicek, J. Jr. 1985. Impacts of Solid Waste Disposal Sites on Property Values. <i>Environmental Policy: Solid Waste IV</i> , edited by G.S. Tolley, J. Havlicek, Jr., and R. Favian, Cambridge, MA: Ballinger	1962-1970	Fort Wayne, Indiana 182	Property value increase by 5% with each mile of distance from a landfill.
Nelson, A.C., J. Genereux, & M. Genereux. 1992. The Price Effects of Landfills on House Values. <i>Land Economics</i> 68(4):359-365	1979-1989	Ramsey, Minnesota 708 sales of houses	Result indicates that the landfill adversely affected home values in the range of 12% at the landfill boundary and 6% at about one mile.
Kohlhase, J.E. 1991. The Impact of Toxic Waste Sites on	1976-1985	Harris County, Houston, Texas	Anomalous finding, property value was higher nearby toxic waste sites. This may be due to the functional form

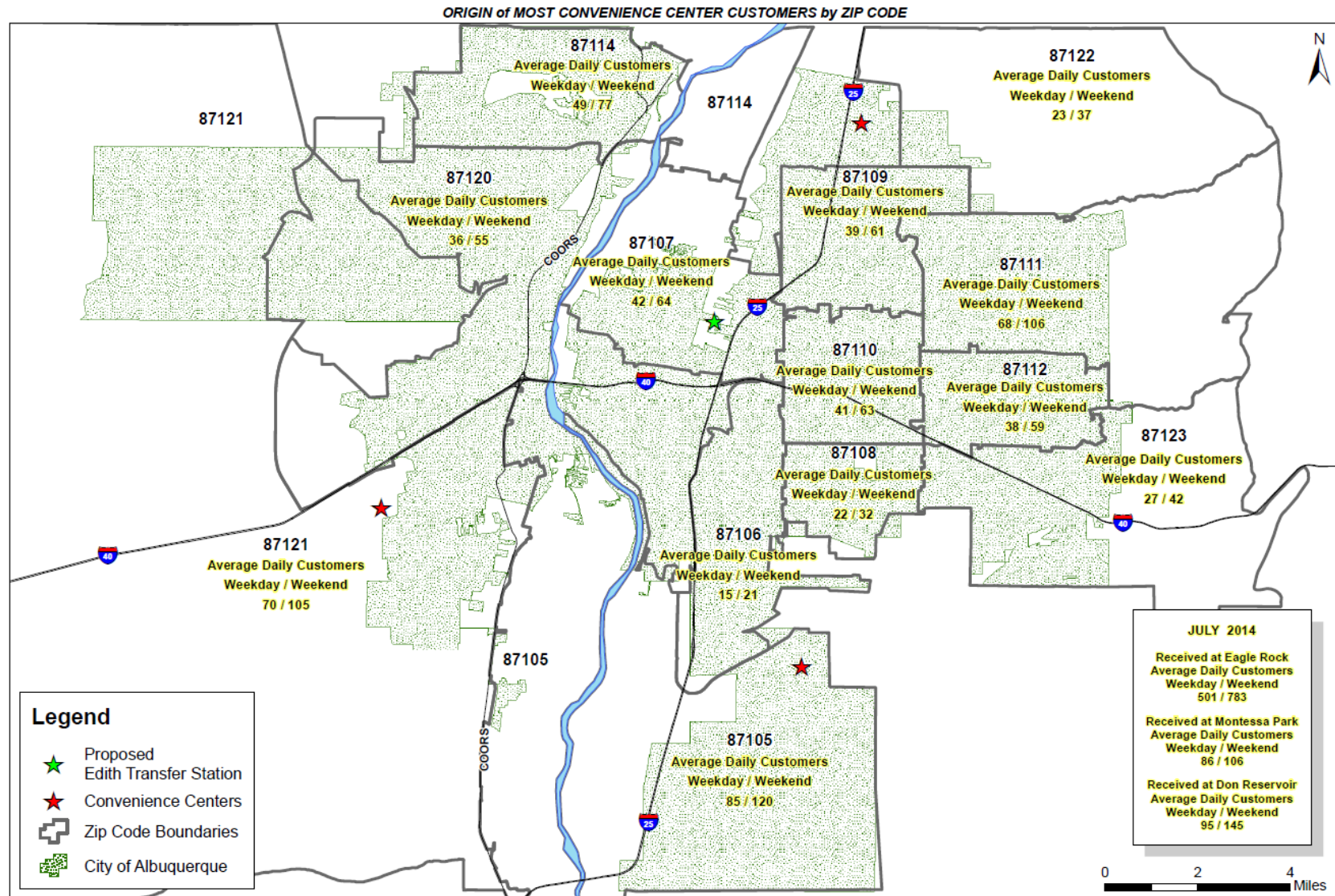
Housing Values. <i>Journal of Urban Economics</i> 30:1-26.			they used; or other unmeasured economic trends may have driven the results.
Ready, R.C. 2010. Do Landfills Always Depress Nearby Property Values? <i>Journal of Real Estate Research</i> 32(3):321-339	1998-2002	Berks County, Pennsylvania 11,090 sales of houses	High Volume (500 tons/day or more) On average, adjacent residential property value decreased by 13.7% with a distance gradient of 5.9% per mile. Low volume: decreased by 2.7% with a gradient of 1.3% per mile
Lim, J.S. and P. Missios. 2007. Does Size Really Matter? Landfill Scale Impacts on Property Values. <i>Applied Economics Letters</i> 14:719-723	1987-1991	Greater Toronto Area, Canada 331 and 1139 observation for two separate models	Property value increases by 6.7% and 2.1% per mile of distance from a larger and a smaller landfill, respectively.
Walton, H., R. Boyd, T. Taylor and A. Marakandya. 2003. Explaining Variation in Amenity Costs of Landfill: Meta-Analysis and Benefit Transfer. <i>Department of Economics and International Development, University of Bath, UK.</i> Available on: http://www.webmeets.com/files/papers/ERE/WC3/552/Walton_WASTE_META.pdf			-impact increases with size of landfill site -decrease with the age of the landfill -Impact more on higher value properties -impacts are lower in more built up areas Following factors are determinants of impacts: • Noise and vibration from on-site activities such as compaction, as well as from off-site transport • Odor from emissions of air (e.g. methane, hydrogen sulfide) • Unsightly litter and debris from on- and off-site activities, which can also soil buildings and other man-made and natural assets • The presence of pests (e.g. rats, seagulls, etc.) • Visual intrusion • Perceived health risk if household associate such risks with proximity of landfill. Marginal implicit price (MIP) distance is 6.7% per mile with a standard deviation of 7.67% per mile.

Roberts, R.K., V.P. Douglas, and W.M. Park. 1991. Estimating External Costs of Municipal Landfill Siting through Contingent Valuation Analysis: A Case Study. <i>Southern Journal of Agricultural Economics</i> , 23:155-165	Personal interview conducted in 1988.	Knox County, Tennessee 798 respondent households	WTP was positively related with household income WTP decreases with distance from the landfill site. Respondents living within 1-mile of the proposed site were willing to pay, on average, \$230 to \$340 more per year than respondents living between 2 and 3 miles from the propose site. The Carter community would be indifferent between (1) not having the landfill nearby and (2) receiving 227 per year to compensate for the external cost of having the landfill nearby.
Deaton, B.J., & J.P. Hoehn. 2004. Hedonic analysis of hazardous waste sites in the presence of other urban disamenities. <i>Environmental Science & Policy</i> 7:499-508	Residential housing sales: 1992 through 2000; 1990 Tiger Base File	City of Lansing, Michigan	In an urban situation, hazardous waste sites are often located near other industrial disamenities such as railroads, storage tanks, industrial noise, and air pollution. Distance to hazardous waste site may be correlated with distances to other industrial disamenities. The omitting the industrial variable places an upward bias on coefficient estimates of the hazard effect. The result show that 10% increase in distance from a Superfund site increases house prices by 0.32%, however, including industrial variables, 10% increase in distance results in increase of house price by only 0.12%.
Eshet, T., M.G. Baron, M. Shechter, & O. Ayalon. 2006. Measuring externalities of waste transfer station in Israel using hedonic pricing. <i>Waste Management</i> 27:614-625	Houses' asking prices for 2001 through 2004	Four sites in different cities in Israel	The result shows that the maximum impacts occur about 1.74 (2.8 km) miles away from a transfer station with an increase of about \$8,000 in housing price for each additional mile away from the site. Alternatively, an increase of 10% in the average distance of a house from the local transfer station is associated with a 0.6% rise in the price of the average house.
BBC Research and Consulting. 2012. Potential impacts of proposed waste transfer station near Carbondale. Retrieved from	Used information from Eshet et.al. and	Carbondale town, Colorado	BBC used 9% reduction in property value adjacent to the proposed transfer station up to 1.75 miles away with 0.8% reduction in value.

http://nearwestside.bloomington.in.us/wp-content/uploads/sites/49/2013/01/bbc_report_carbondale_final.pdf	Ready, 2005.		Results show that there is loss of \$16.4 million in market value and \$1.4 million taxable value within .175 miles from the proposed waste transfer station.
Gayer, T., J.T. Hamilton, & W.K. Viscusi. 2000. <i>The Review of Economics and Statistics</i> , 82(3):439-451	House sales price 1988 through 1993	Grand Rapids, Michigan	Their result indicates that removing a hazardous-waste site that is not a Superfund site yield a benefit between \$1,486 and \$1,982 for a household within 0.25 mile of the site.
Hite, D., W. Chern, F. Hitzhusen, & A. Randall. 2001. Property-value impacts of an environmental disamenity: the case of landfills. <i>Journal of Real Estate Finance and Economics</i> , 22:2(3):185-202	House sale prices for 1990	Franklin County, Ohio	The average welfare increased for household that move from a landfill to 3.25 miles away from a landfill would be 19%.
Thayer, M., H. Albers, M. Rahmatian. 2001. The benefits of reducing exposure to waste disposal sites: a hedonic housing value approach. <i>The Journal of Real Estate Research</i> 7(3):265-282	Home sale price of owner occupied single family dwellings sold during 1985-1986	Baltimore, Maryland	Results show that the price difference between houses located within one mile radius and the remaining area is \$12,098 which is about 11.5% reduction in the price due to the presence of a landfill. The home price was impacted up to 4 miles from a landfill.
Reichert, A.K., M. Small, and S. Mohanty. 1991. The impacts of landfills on residential property values. <i>The Journal of Real Estate Research</i> 7(3):297-314	House sales data 1985 to 1989 and	Cleveland, Ohio	They found that the negative impact was between 5% to 7.3% of the market value depending upon the actual distance of properties from the landfill. For older areas, the landfill effect is between 3% to 4% of market value and essentially nonexistent for predominantly rural

	homeowner survey		areas. In the survey, they ask to rank the potential nuisance and health problem associated with landfills. These are unattractiveness, odor, noise, truck traffic, blowing trash, health hazards (methane gas, toxic water, rodents).
Ready, R. and C. Abdalla. 2003. <i>Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University</i> Staff Paper #363	House sales data 1998 through 2002.	Berks County, Pennsylvania	The results show that a landfill located 500 meters from a house decreases the house's sale price by an estimated 12.4%. (6.9% decrease for a house located 800 meters, 3.8% decrease for 1200 meters from the landfill).
Kiel, K.A. and M. Williams. 2005. The Impact of superfund sites on local property values: are all sites the same? <i>Department of Economics, College of the Holy Cross.</i> Working Paper #05-05	Meta-analysis	Meta-Analysis	Their results show that the impacts on house prices ranges from a low of 0.94% to a high of 92% with a mean of 16.26% and median between 6.34% to 7.52%.

Appendix B. Origin of Convenience Center Customers by Zip Code Based on July 2014 Data



Appendix C : Citizen's Complaints about Eagle Rock Convenience Center

Citizen's Complaints

Citizen said the dust at the Eagle Rock Convenience Center is very bad. He said they need to water the dirt. He is concerned about citizens as well as the well being of the workers. He said he is aware that the exhaust fans are not working which adds to this issue.

Citizen was in line and eventually got to the window where there was a sign that said debit down. What a waste of time. The center, Solid waste, the City needs to do better. Let people know. And have some consideration for customers after waiting for an hour and no debit option to take 5.05 instead.

The line was very long and the citizen had to wait a very long time.

Citizen was upset that he was being charged the unsecured load fee. He states that the blonde attendant was very rude. I explained that all loads that are transported to convenience centers must be covered and secured. He stated that that is why there is so much illegal dumping.

Citizen wants to know if we would accept a money safe at Eagle Rock or any other location?

Heater in the cash booth not working.

EMAIL TO SUPERVISOR:

Arrived at center a few minutes before 5 and gate was being locked.

Upset he was told to go to ATM to get money.

Citizen stated, went to dump a load of tree trunks at the Eagle Rock Convenience Center. Employee was very rude. Citizen stated was willing to pay for the dumping of this load. But then stated that she started cursing at him and told him to get off the property. Employee stated that she was speaking with the foreman. She stated that she did not care where he dumped the load. Citizen left the property and went back around. Still was not allowed in to dump the load.

Citizen then stated that he dumped the load in the area outside of the Eagle Rock Convenience Center

Source: City of Albuquerque's Solid Waste Department

Appendix D Project Area as Assigned by the City of Albuquerque

