

## **Alternative Transportation Financing – Road Reconstruction Development Fees**

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Several mostly rural Colorado counties heavily impacted by oil and gas extraction have explored the imposition of fees intended to recoup the cost of reconstructing/maintaining roads impacted by oil and gas development. I was involved in helping Weld County explore the issues related to such a fee, but have not developed such a fee. I have researched what has been done by others, and evaluated the issues related to developing such fees. This paper describes the precedents and evaluates the issues involved in preparing, what I had dubbed for lack of a better term, “road reconstruction fees.”

### **Non-Impact Fee Approach**

As an impact fee consultant, I am particularly interested in approaches that craft the fee in that manner. However, it is worth describing the more traditional negotiated exaction approach. This approach has the advantage that it avoids the issues described below relating to the impact fee approach, and is a direct way to recover road repair costs related to the heavy truck traffic generated by oil and gas development on rural roads that are not designed to accommodate such loads.

#### La Plata County – Oil & Gas Road Mitigation Fee

La Plata County (Durango is the county seat) negotiates a memorandum of understanding (MOU) with oil companies (such as BP, ConocoPhillips, Chevron) before they submit applications for State permits for well construction. The incentive for the producers is that the County will agree not to protest their State permit application. The MOU includes a negotiated "road maintenance and improvement fee" that is based on the County's current road maintenance cost and the anticipated increase attributable to the heavy truck traffic associated with the wellfield development. For example, an agreement with ConocoPhillips in 2006 specified road mitigation fees ranging from \$4,116 to \$7,501 per well, depending on whether produced water will be piped or trucked off-site. Details of the fee calculation are appended in the Appendix.

### **Issues with Impact Fee Approaches**

In Colorado, the more common approach is to develop the fee to accommodate the transportation impacts of oil and gas development as an impact fee. There are three major issues that arise in crafting such an impact fee: (1) impact fees are not typically assessed on only one particular type of development, such as oil and gas, but are assessed on all land uses that create the need for improvements; (2) an impact fee based on road reconstruction may overlap with a more traditional capacity-based road impact fee; and (3) impact fees can't be used to address existing deficiencies, and must be based on the actual existing level of service (LOS).

Before describing these issues in detail, it is worth considering an approach that avoid all of the issues. Some Colorado municipalities have simply amended their traditional road impact fees to include fees calculated specifically for oil and gas wells. The standard road impact fee is based solely on the number

of vehicle trips generated, and the resulting road capacity that is consumed by those trips. The drawback of this approach is that oil and gas development does not generate very many trips – the more significant impact is the degradation of rural roads not designed to accommodate heavy truck traffic. For example, the Town of Windsor in Weld County added an oil and gas land use category to its road impact fee schedule in 2015. The fee per wellhead was \$1,032, which was a little more than half of the fee for a single-family home. The standard methodology could be modified to take into account that a truck takes up more road capacity than a passenger vehicle by including the percent of truck traffic and weighting truck trips more heavily, but the fees would still be relatively low.

Setting aside this approach, let's now consider the three major issues with developing a "reconstruction" road impact fee targeted at oil and gas development.

### Consistency Among Land Uses

In general, impact fees are not assessed on only one particular type of development, but rather on all developments that have an impact on the relevant facilities. Impacts of heavy truck traffic on road reconstruction needs are not limited to oil and gas development, but are also associated to some extent with all developments in the construction and operational phases. Singling out oil and gas development for the assessment of road reconstruction impact fees poses an issue of equity. This issue could be addressed by imposing a reconstruction road impact fee on all land use types, based on the mix of truck/passenger vehicle traffic.

### Overlap with Traditional Road Impact Fees

If a jurisdiction attempts to address the consistency issue by assessing such a fee on all land use types, and also charges a traditional capacity-based road impact fee, the two types of road fees would tend to overlap. This overlap occurs because every road has two kinds of capacity – the ability to accommodate a certain number of vehicle trips in a given time period (the traditional notion of capacity), and the ability to withstand the reconstruction of such vehicles before reconstruction is needed. For example, a new road construction project would add both vehicle capacity and reconstruction capacity. In addition, widening projects often involve the reconstruction of the existing lanes, which adds reconstruction capacity. The difficulty of drawing clear lines between the improvements to be funded by the two approaches poses issues for the same jurisdiction to charge both types of road fees in the same area.

### Level of Service

The fundamental principle of impact fees is that you can't charge new development for a higher level of service (LOS) than is already being provided to existing development. While new development will impose future costs for road reconstruction and repair, so will existing development. However, existing development has prepaid for their future roadway reconstruction, in the form of existing roads with the ability to accommodate some amount of future traffic before they will need to be reconstructed.

The unit of demand for a reconstruction road impact fee is an 18,000-pound Equivalent Single Axle Load (ESAL). This is comparable to a vehicle trip for a traditional road fee, and when you multiply by the miles the load travels you get ESAL-miles, comparable to vehicle-miles of travel. The existing level of service can be quantified for the entire roadway network in terms of the average number of

years of useful life of existing roads before they need to be reconstructed. So if existing development has essentially pre-paid for the capacity to accommodate its traffic load for an average of 10 years before the existing roads need to be reconstructed, new development could be charged for the cost of accommodating its traffic load for ten years.

### **Examples of “Reconstruction” Road Impact Fees**

The following is a brief summary and evaluation of four analyses prepared for Colorado counties to calculate fees to recover the costs of road reconstruction/repair due to oil & gas development. These studies were not necessarily implemented, and may not have been intended to be used as the basis for an impact fee. The counties and the types of analysis performed are:

- Garfield County - reconstruction fee for oil & gas wells, traditional road fee for other uses
- Rio Blanco County - reconstruction fee assessed on all land uses
- Weld County - traditional and wear & tear fees in different areas
- Boulder County - reconstruction fee for oil & gas wells only

#### Garfield County – 2005

Garfield County’s 2005 Transportation Master Plan included development of potential road impact fees. It calculated traditional road impact fees for all other land uses, and wear & tear fees for oil and gas wells. It calculated an oil & gas impact fee of \$2,077 per well. It does not appear that the County adopted this fee. The lack of a consistent approach for determining fees applicable to all land uses is the obvious drawback of this approach.

#### Rio Blanco County – 2008

Rio Blanco County developed a road impact fee in 2008 that applies not just to oil & gas wells, but to all development, and is assessed based on trip generation rates, percent truck traffic, and ESAL loads. The study used a plan-based approach to determine needed structural upgrades over the next 15 years, and divided the total cost of those improvements by the total daily ESALs expected to be generated by both existing and new development at the end of the planning period to determine the cost per ESAL. The study calculated a fee of \$600 per single-family home and \$17,000 per well (lower fees for wells on sites with on-site water production and disposal).

The study argued that fair share apportionment of costs was assured by this calculation, compared to the more conventional plan-based approach of dividing total costs by total new trips. Under the conventional approach, however, one must also identify any existing deficiencies and remove those costs, which are not attributable to growth. That requires an existing level-of-service analysis, which was not performed in this case.

The implicit assumption made in the study is that allocating costs to all development ensures that new development is not charged more than its fair share. However, a simple example can demonstrate that this is not necessarily the case. Suppose the County was calculating a park fee, based on a park plan that projected it would grow from 10,000 to 50,000 residents, triggering the need to expand the current 50 acres of parks to 350 acres. In this example, dividing by total residents at the end of the

planning period does not ensure fair share, because the park LOS would increase from 5 acres per 1,000 residents currently to 6 acres per 1,000 by the end of the planning period.

The information required to do an existing LOS analysis was readily available, since the consultants used information on existing roadway conditions to determine the improvements that would be needed. Adding an existing LOS analysis would have strengthened the study's legal defensibility. Otherwise, Rio Blanco's approach avoids issues related to consistency and overlap, and would be a good model for rural counties whose primary road capital needs are related to road reconstruction, but may not be a good model for a jurisdiction that mostly needs more traditional types of capacity improvements, such as widening roads.

#### Weld County – 2009

When Weld County was considering assessing impact fees on oil and gas development to fund the reconstruction of existing roads impacted by their heavy trucks, our firm suggested that they could identify areas of the county that would be subject to such a fee, and other areas that would continue to be subject to their traditional road fee. The thought was that the concentration of oil & gas wells might be in more remote parts of the county, where there would be little need for traditional capacity improvements and development in those areas could have a road fee based on wear & tear, while the more traditional road fee would apply in the more urban areas of the county. However, the Wattenberg Energy Field oil & gas well activity is concentrated in the more urban areas of the county, where the County would have to choose between keeping its traditional road fee or replacing it with a wear & tear fee. We suggested they consider negotiating extraction road mitigations fees along the line of La Plata County's approach. The County decided to retain their traditional road impact fee, so no study was prepared. Nevertheless, the idea of applying different methodologies to calculating road impact fees in separate service areas may be a reasonable approach in some jurisdictions.

#### Boulder County – 2013

Boulder County commissioned a study in 2013 to develop an analysis of the potential impact of anticipated oil & gas development in the eastern portion of the county. The study projected future oil & gas development over the next 16 years, the road reconstruction costs associated with that development, and potential fees that would be needed from that development to defray the cost. The calculated fee was \$36,800 per well. The study provided the County with a solid basis for negotiated agreements with producers. The study did not, however, use the term "impact fee," and would not appear to fully comply with legal standards for an impact fee, due to its exclusive focus on oil & gas development and the lack of an existing level-of-service analysis.

## APPENDIX

The following documents are attached to the digital version available at [www.growthandinfrastructure.org](http://www.growthandinfrastructure.org) (click on conferences tab):

La Plata County Engineering Department, *BP 80-Acre Infill Application: An Estimate of the Increased Road Maintenance Costs*, August 11, 2005

LSC, *Garfield County Transportation Master Plan*, Preliminary Plan, 2005  
Chapter X: Off-Site Street Impact Fee Methodology  
Appendix D: Gas Well Impact Fee

RPI Consulting, *Road & Bridge Department Impact Fee Support Study, Rio Blanco County, Colorado*, April 2008

Felsburg Holt & Ullevig, *Boulder County Oil and Gas Roadway Impact Study*, January 2013