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Conversations for Responsible Economic Development

HOW DO PIPELINE SPILLS IMPACT PROPERTY VALUES?

Assessing the real estate risk of an oil spill in southern British Columbia

Introduction

The west coast of British Columbia is known for its breathtaking viewscapes, access to both waterfront and wilderness, and destination as one of the world's most liveable regions. Homeowners benefit from these unique advantages both in their day-to-day lives and through the value of their properties, which are bolstered by the 'beautiful BC' brand. British Columbia's real estate sector is also a significant source of jobs and wealth, particularly for small businesses. There are over 14,000 real estate agents in Greater Vancouver, Vancouver Island and the Gulf Islands alone and the sector is the single biggest contributor to provincial GDP.[1] The related property development sector is directly and indirectly responsible for over 220,000 jobs across the province, in areas from planning and construction to secondary supplier purchases.[2]

CRED is seeking to better understand the risks of an oil spill as part of an ongoing dialogue about the economic future of the region. Where are the best places to invest for future growth and prosperity? How can we safeguard our quality of life and support industries that will ensure long-term responsible development which benefits everyone?

The pipeline: Kinder Morgan Canada is proposing a $5.4 billion project to build a new pipeline alongside its existing 1,150-kilometre Trans Mountain pipeline system between Edmonton, Alberta and Burnaby, BC. Its goal is to increase pipeline capacity to at least 890,000 barrels per day, up from the current level of 300,000 barrels per day.[4]

Financial risk: Resource development projects such as the proposed new Trans Mountain pipeline have the potential to impact property values, particularly if they result in tanker or pipeline spills or leaks. Property owners, realtors, developers, planners and others in the sector should have access to the best information possible about how this project could impact their livelihoods.

Research scope: This report focuses on the risk of oil pipelines to real estate values. Using academic research from multiple sources alongside industry analyst data, it highlights the impacts of eight separate spills in the US and Canada - seven pipepline spills and one offshore oil rig explosion.

Next steps: In light of this report, it is important to assess where and how parallels can be drawm between other spill locations and BC's south coast. Through further research, CRED hopes to develop a fuller picture of the risks, if any, of this pipeline to local real estate values and property development jobs.

Key findings

- Both direct contamination & the perception of contamination have clear and well documented impacts
- In several documented cases, directly impacted properties lost 10-40% of their value
- The reputational impacts alone are significant - properties nearby spills will usually see a 5-8% reduction in value
- The most significant impacts are felt in the first year and usually last less than 5 years
- Groundwater contamination will lead to more permanent value losses, particularly where homes rely on well water

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Research summary

Summary of real world examples

To begin assessing risk, we gathered information on eight separate spills in the US and Canada. In three of the cases, the spills directly impacted properties and in two further cases, the proximity and perceived impact of the incidents devalued properties. In the final three cases, residents have claimed values losses but they have not yet been independently. confirmed. This research is summarized below and more detailed information can be found on the following pages.

Cases where property values were hit by direct contamination

1	**Maryland**: 11% value loss & 40% fewer home sales	In Maryland in 2000, a suburban spill led to an 11% decline in property values across the neighbourhood and a 40% decrease in sales volume of waterfront property, lasting for around a year.[5]
2	**Texas**: 10.2% value loss	Properties in a Texas subdivision impacted by a 1994 pipeline leak had lost 10.2% of their net value one year later.[6]
3	**Ohio:** 25-40% value loss, homes purchased by BP	In one Ohio neighbourhood, homes were purchased outright by BP after groundwater contamination was found as a result of past pipeline spills. These homes have lost 25% of their value on average- 40% when adjusted for time value.[7]

Cases where reputational impacts led to value losses

4	**Gulf of Mexico**: 5-15% loss to property values	The 2009 Deepwater Horizon spill impacted the real estate market in five states in along Gulf of Mexico. Several analyses showed impacts of 5-15% on property values, including areas that never saw oil wash onto the beaches.[8] A major real estate developer in the Florida northwest Panhandle saw a 42.4% decrease in company stock price in the months following the spill.[9]
5	**Washington:** homes near pipeline valued 4.6% lower	A study of the 1999 spill in Bellingham, Washington State concluded that a home near the Olympic pipeline was on average valued 4.6% lower than neighbouring properties as a result of proximity to the pipeline.[10]

Cases where property value loss was claimed but not verified

6	**Michigan:** Enbridge purchased homes, residents claim impact	In Michigan, oil company Enbridge purchased over 150 homes near the 2010 Kalamazoo River spill in an attempt to stabilize the local real estate market. Residents have expressed concerns about the spill's impact on property values.[11]
7	**Burnaby:** Public information lacking on 2007 spill	In Burnaby in 2007, the existing Trans Mountain pipeline spilled 250,000 litres of oil into a residential neighbourhood. However, no research has yet been carried out on the degree to which this spill has impacted home values or sales volume.
8	**Alberta:** Residents suing oil company over property value impacts	In Sundre, Alberta in 2012, residents launched a class-action lawsuit against Plains Midstream Canada after a major spill "devastated local property values".[12]

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In depth case studies

Case studies

Here we have highlighted five academic case studies as well as three particularly relevant cases where we would like to see more research. This list is not exhaustive - many other spills and leaks have affected properties values, and these are only eight examples from across North America. However, it is important to note that we didn't exclude any significant studies, nor did we find any research indicating zero impact on housing prices.

1 Pepco Pipeline, Maryland, 2000

Loss in value: 11% in the first year

In 2000, a 3,800-barrel (120,000-gallon) oil spill in a suburb of Washington DC affected property near the Patuxent River. A study published in *The Appraisal Journal* in 2001 concluded that waterfront and beach-access homes were significantly and negatively affected by the spill.

In the year following the incident, home values within a 10-mile study area fell 11%. In addition, waterfront properties experienced reduced sales volume. According to real estate listing data, only three waterfront homes sold in the first sale season after the spill, a 40% decrease from the previous year. Because there was no substantial variation in regional markets, the study concluded that this decline was likely due to the spill.[13]

2 Colonial Pipeline, Texas, 1994

Loss in value: 10.2%

A study by real estate economist Dr. Barton Smith investigated the impacts of a natural gas pipeline leak into the San Jacinto River following heavy flooding in Harris County, Texas. As a result of the leak, the river caught on fire and burned for several days. Properties in the surrounding White Lake subdivision sustained a net 10.2% loss in value when compared to prior to the leak.[14]

3 BP-operated Inland Corp Pipeline, Ohio, 1991

Loss in value: 25% on average on each sale

The Inland pipeline, operated by BP, spilled several times between 1948 and 1962. A study of 100 homes showed that 13 experienced hydrocarbon contamination and six had benzene levels above federal standards for municipal water systems. In 1991, BP began to look into the contamination and subsequently purchased 41 parcels of land in the impacted area. According to public records, in 1999 BP still owned 18 of the homes and had resold 23 of them.

Sale and resale analysis of 21 of the properties acquired and resold by BP between 1991 and 1999 showed that 19 of the properties decreased in value and two increased.[15] The average decrease in value was 25%. These figures represent the direct loss associated with an oil pipeline leak with groundwater contamination in an area relying on well water. According to the research, this analysis understates the actual loss because it does not account for the time value of money in holding the properties prior to resale. In actual fact, BP lost 40% on the value of the properties it purchased.

There were an additional 65 units affected by the pipeline leak. In these cases, BP made a deal with homeowners and offered to buy out, relocate and compensate households. They also offered each household $10,000 for home improvements and indemnification against declining property values for 10 years.[16]

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4 BP-operated Deepwater Horizon oil rig, Gulf of Mexico, 2010

Loss in value: 5-15% loss in values projected

On April 20, 2010, an explosion and subsequent fire on the Deepwater Horizon Mobile Offshore Drilling Unit killed 11 workers and injured 16 others. The explosion caused the Deepwater Horizon to burn and sink, resulting in a massive offshore oil spill, considered the largest accidental marine oil spill in the world, and the largest environmental disaster in U.S. history.

Real estate prices and propery sales in the Gulf of Mexico decreased significantly during and following the period of the oil spill, as images of oil-stained beaches kept would-be homebuyers at bay.

According to real estate information company CoStar Group, the spill may drive down the Gulf Coast's shore-area property values by 10% for at least three years. CoStar Group estimates that losses could total $4.3 billion along a 1,000-kilometer stretch from the Louisiana bayous to Clearwater, Florida.[17]

An article in the Albany Law Review also reviewed the spill's impact on real estate values. The article noted that St Joe Company, a major real estate developer with ownership of several hundred thousand acres in the Florida Panhandle, saw a 42.4% decrease in its stock price in the six months immediately following the spill.[18] This stock price has not yet recovered. St Joe estimated that the loss to real estate values along a one acre-deep strip of land along the shore between Mobile, Alabama and Clearwater, Florida was approximately $4.32 billion. [19]

According to real estate analysts Clear Capital, the spill further compounded the economic fragility of the Gulf region following the 2008 U.S. housing crisis. Their research showed significant decreases in property sales in a market that was just beginning to show signs of recovery. For example, in greater New Orleans, housing sales were down 12.7% in May and 37.9% in June 2010 compared to the same months in the previous year.[20]

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Several news reports quoted real estate professionals reporting significant impacts. A real estate agency on Osalooka Island, which used to sell on average seven properties per month, had not sold a single property by June of 2010. In Mississippi, a real estate and development company CEO remarked that sales of beachfront property had stalled even though there was no oil on the beaches.[21] The images of oil-soaked beaches affected real estate prices in communities all along the coast, even those without any direct exposure to oil. Clear Capital found that stigma and public perception had a significant impact, with 1 in 4 realtors reporting negative impacts in their markets, even though only 3.2% reported actual physical damage from the spill.

The experts weigh in

According to Dr. Robert A. Simons, a Cleveland-based expert in real estate economics[22], the impacts from pipeline spills are well established. He has noted that following an oil spill, the values of nearby properties are typically impacted by 5-8% and the impacts generally last for 1-2 years. Urban economist Dr Barton Smith notes that the degree of property value impact is generally a function of how recent the incident was, whether it is a repeat occurance, whether there's direct property damage and, if not directly affected, the property's proximity to the incident. Even if houses aren't directly damaged, the stigma and perception that the next incident could affect them is significant.[23] Another analysis from Western Washington University notes that a home's value "is negatively and significantly affected by proximity to a petroleum pipeline".[24]

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5 Olympic Pipeline, Washington State, 1999

Loss in value: 4.6% near the pipeline

A study carried out at Western Washington University investigated the impact of a 1999 Olympic pipeline explosion on single-family home prices.

It concluded that the average home located within 50 feet of the pipeline was worth 4.6% less than the average Bellingham home a year after the event, regardless of whether it was located near the pipeline explosion or a distance away. As with most other cases, this "disamenity discount" decreased over time.[25]

The study found a clear link to public perception of environmental contamination of that pipe in particular, since houses near another, incident-free pipeline, also located in the Bellingham area, experienced no significant impact on prices.

6 Enbridge Line 6B pipeline, Michigan, 2010

Over 150 homes purchased by Enbridge

The largest-ever U.S. diluted bitumen spill occurred on July 25, 2010 outside Kalamazoo, Michigan when Enbridge's Lakehead Pipeline System 6B ruptured. More than 20,000 barrels of oil leaked from the pipeline into the Kalamazoo River.[26]

Impacts from the spill led Enbridge to develop a home buyout program for residents living along Talmadge Creek and the Kalamazoo River. Enbridge identified about 200 eligible homes in Calhoun and Kalamazoo Counties and purchased over 150 of these. Their stated aim was to stabilize the real estate market.[27] A February 2012 report from Cornell University and the Global Labour Institute could not determine the long-term impact on the real estate market since only one property had been resold a the time of publication, for an undisclosed amount.[28]

> *Impacts from the Kalamazoo spill led Enbridge to develop a home buyout program.*

Following the Kalamazoo spill, the Environmental Protection Agency conducted community interviews. The records of these interviews include concern about the potential effect of the stigma on property values in an already-depressed housing market, particularly on homes just outside the area eligible for Enbridge's purchase offer. Some people also expressed concern that Enbridge could release all of the homes it purchased at the same time thereby flooding the real estate market. One local realtor stated that this could be devastating to their housing market.[29]

Lastly, many evacuated residents interviewed by the US House of Representatives Committee on Transportation and Infrastructure in 2010 stated that they were required by Enbridge to sign full and final releases from liability in order to be reimbursed for hotel accommodation and food.[30]

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7 Trans Mountain Pipeline, BC, 2007

Loss in value: unknown

In 2007, a Burnaby road crew accidentally ruptured Kinder Morgan's Trans Mountain pipeline, causing 1,570 barrels of crude oil to flow into Burrard Inlet Bay via the Burnaby storm sewer system. Eleven houses were sprayed with oil, many residential properties required restoration and approximately 250 residents voluntarily left their homes.[31]

Eleven houses were sprayed with oil and approximately 250 residents left their homes.

Even though the spill occured over five years ago, no publicly available research has yet been carried out on the degree to which this spill has impacted home values or sales volume locally.

8 Plains Midstream Pipeline, Alberta, 2012

Loss in value: $75m claimed, lawsuit pending

In June of 2012, residents, vacationers and business owners in Sundre, Alberta launched a class-action lawsuit against Canadian oil company Plains Midstream Canada, after 28,000 barrels of sour crude oil spilled into Red Deer River and Gleniffer Lake near the town of Sundre. They are seeking $75 million in damages, claiming that the major spill devastated property values in the area.[32]

As of yet, no scientific or academic studies have been done into long-term real estate impacts from the spill.

About CRED

Conversations for Responsible Economic Development is a collection of professionals and business leaders from the tourism, real estate, tech, health, creative and other service-based sectors who are committed to participating in informed dialogue about long-term prosperity on Canada's west coast.

We are attempting to get a fuller picture of the costs and benefits of Kinder Morgan's proposed new Trans Mountain pipeline, as we believe it will influence the regional economy and it is important to measure the risks as accurately as possible. Kinder Morgan and the Port of Vancouver have already showcased the project's benefits thoroughly, so we are focusing on an assessment of the risks, as well as understanding how the proposal might impact specific sectors.

SOURCES AND END NOTES

Introduction

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