New Arena Development in Markham: A Review

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Overview

- Review of materials prepared for Town of Markham by outside stakeholders/consultants
- Provide some recommendations based on previous work and existing academic literature

Daniel Mason

- Ph.D. in Sport Management, University of Alberta (1999)
- Funding from *Social Sciences and Humanities Research Council* to study arenas and urban development
- Published in *Journal of Urban Affairs, Economic Development Quarterly, Contemporary Economic Policy, Economic Inquiry*
- Consultant for City of Edmonton – downtown arena project (2006-2011)
- Contingent Valuation Method studies of proposed new arenas in Calgary and Edmonton; willingness to pay (WTP) for Olympic Medal success; WTP for arts and cultural amenities

Brad Humphreys

- Ph.D. in Economics, the Johns Hopkins University (1994)
- Professor of Economics, University of Alberta
- Published 15 papers in peer reviewed economics & policy journals on financing/economic impact of professional sports teams and facilities
- Testified twice before the US Congress on the economics and financing of sports facilities
- Associate Editor, *International Journal of Sport Finance*

Arena Lease Agreements

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- Vary considerably
- Most important consideration is how public debt is serviced
  - Arena revenues; ticket taxes; parking fees; sin and hotel taxes; gaming revenues etc.
- Where Major League tenant controls arena revenues, often pay for that privilege

Arena Operations

- Need to be aware of projected events and acts
  - Varies on year-over-year basis
  - Number of events tend to be overestimated
  - Can impact other revenue streams (parking, etc.)
- Secure guarantees on performance of operators
- Secure guarantees on revenues Town receives to service public debt
- Maintenance and upkeep usually the responsibility of the team and/or operator

Control of Revenues

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- Where NHL is anchor tenant, team usually controls all arena revenues

  -exceptions are New York Islanders, Carolina Hurricanes.

  -in some cases coordinated by two teams - NHL and NBA - (see Dallas and Boston), or is a function of the fact that the same entity owns both the facility and the team.

- Where arena is publicly funded and/or owned, it is still typical to turn over control of operations and revenues to the anchor tenant or another entity

Justification for Arena Subsidies

- "The Benefit Principle"
- If public funds are used to build an arena, the people who supply the funds (taxpayers) should get benefits equal to the value of funds provided

Types of Benefits

- *Tangible Economic Benefits*: More spending in Markham, more jobs in Markham, more tax revenues for the Town
- *Intangible Economic Benefits*: More local entertainment options, sense of civic pride, sense of community, "put Markham on the map," commonality for residents

Tangible Economic Benefits: Evidence

- Based on the economic performance in other cities in North America over the last 30 years, building a new arena did not generate any tangible economic benefits for cities
- Based on a large body of peer reviewed evidence examining what actually happened in cities that built arenas
- Other approaches and methods, primarily aimed at forecasting expected tangible benefits, are commonly used

Why No Tangible Benefits?

- Clearly, a lot of economic activity takes place in hockey arenas
- This activity is not new economic activity
- A hockey arena concentrates economic activity at one place, at one time
- Easy to observe, but much of it is just moving economic activity around

Caveat for Markham

- Could get some tangible economic benefits from:
  - Residents who would have spent money at the Air Canada Centre if there was no arena in Markham
  - Residents of downtown who come to Markham to attend an event at the new arena
- Likely to be small

Intangible Economic Benefits: Evidence

- The value of intangible benefits generated by arenas in North America is positive, and substantial
- Based on the "Contingent Valuation Method" (CVM) and survey data
- Confirmed by research showing higher property values near facilities and voting patterns in plebiscites

Intangible Benefits and Subsidies

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- The intangible benefits of a new arena in a community can justify some public subsidy for construction
- Apply other estimates of intangible benefits from a new arena and team to Markham
- An estimate of the value of intangible benefits has been undertaken

Assumptions

- No tangible economic benefits generated
- Different from many forecasts of expected future benefits, but consistent with research on what actually happened in cities across North America
- Intangible benefit estimates from other cities can be applied to Markham
- Arena will last 30 years
- 88,600 Families in Markham (2011 estimate)
- Valuation based on net present value over 30 years

Assumptions II: Intangible Benefits

- Estimates based on results published in peer-reviewed research on intangible benefits from sports teams and facilities
- High degree of confidence they apply to Markham
- Sources
  - From a new arena: Based on study of a proposed new arena in Lexington, Kentucky in 2000 *Contemporary Economic Policy*
  - From an arena downtown: Based on study of proposed new downtown arena in Edmonton in 2011 *Economic Inquiry*
  - From an NHL team: Based on study of intangible value of the Penguins in 2001 *Journal of Sports Economics*

Present Value of Intangible Benefits

	Upper Bound	Lower Bound
From New Arena	$24,000,000	$9,500,000
Downtown Location	$32,000,000	$18,500,000
Subtotal, Arena Only	$56,000,000	$28,000,000
NHL Team	$14,000,000	$5,000,000
Total	$70,000,000	$33,000,000

Conclusions and Recommendations

- Lease agreement should not exceed projected useful life of the facility (30 years or less)
- Municipal compensation should be guaranteed to protect public investment
- Town should have option to renegotiate or end lease early with operator should projections not be met
- Responsibility for maintenance should be borne by operator
- Intangible benefits generated by new arena in downtown estimated to range between $28 million and $56 million – will increase with presence of anchor tenant

Final Deliverables 1/5

Bargaining considerations

The most significant risk involved in the proposed project relates to the uncertainty surrounding the lack of a major league tenant. The ability to attract an anchor tenant in the form of a high level professional team will have a strong impact on the outcome of the proposed arena project in Markham. A number of factors will affect the ability of some individual or group to successfully attract a new or existing NHL team. These are discussed below.

First and foremost, it is important to recognize that the NHL, and other professional sports leagues, as a matter of public policy, operates as unregulated monopolists in North America. Federal governments in the US and Canada have decided to allow professional sports leagues to operate as monopolists without the usual anti-trust or anti-competition oversight that applies to virtually all other industries in North America, through explicit and implicit exemptions from anti-trust law. Without these exemptions, there would be more top level teams in the NHL, NBA, MLB and NFL in North America. More specifically, there would already be one or more additional major hockey teams in the metro Toronto are in the absence of these exemptions. Because of this, leagues create artificial scarcity of franchises in order to increase their profits.

Statements claiming that other markets around North America "cannot support a team" made by team owners or leagues must be discounted. Los Angeles, California, the second largest media market in North America, has not had an NFL team since 1994. This is not because LA cannot support a team.

Economic theory clearly predicts that monopolists generate profits above those that would be earned in a competitive environment by restricting output. In terms of the NHL, this means that the league limits the number of teams and will be unwilling to expand under most circumstances, as expansion reduces the monopoly power of the existing teams. NHL expansion has been infrequent in the past, and this is unlikely to change in the future.

A second way the NHL exercises monopoly power is through the establishment and promulgation of exclusive territorial agreements. Although these agreements are not public, virtually every inch of North America is currently allocated as the territory of a specific NHL team. There is no unallocated area in North America. Territorial agreements make each team a monopolist, in terms of being the sole supplier of hockey played at the highest level, in their designated territory. The movement of an existing franchise to a new area means that an existing team will see its monopoly power diminished to some extent, which will mean lower monopoly profits earned by that team now and for the indefinite future. In general, existing teams are unwilling to cede monopoly power under any circumstances.

These factors make moving an existing franchise, or granting rights to a new franchise, an undesirable event for existing teams and the league. As a result, there is an expectation for the league or the team to be compensated by a new team or a relocating team. These actions will not be undertaken easily or inexpensively.

At some level, attracting an existing NHL franchise involves activities that economists would describe as an auction. There may not be an explicit price, an auctioneer with a gavel, or bidders making hand signals, but the basic elements of an auction are present: there is a scarce asset to be allocated, multiple potential owners of the asset who each have private information about their value of the asset, and an owner of the asset who wants to extract the maximum amount possible from one of the potential buyers. These are the key features of auctions, and a rigorously tested economic theory has been developed to explain outcomes in this setting.

Note that the "price" paid for a professional sports team may involve cash, lease terms, side payments, and a myriad of other factors associated with the ownership of a professional sports team and the agreement between the team owner and the owner of the facility. Auction theory cuts through these details and simply assumes that some effective price can be reasonably defined for the item being auctioned. The key is that the person who owns the item wants to extract "more" of whatever constitutes the components of this effective price from potential bidders. In the case of an arena, this can include a huge number of elements that could be possessed by either the owner or the potential bidder, or agents linked to the bidder like the owner of an arena.

The key prediction from auction theory is that the winning bidder must pay more than the value placed on the item (in this case an NHL franchise) by all other bidders. Any bidder who values the item less will not be able to win the auction. It's not what you are willing to pay, it is what your closest rival is willing to pay to win the auction, that dictates how much must be paid to acquire an item in an auction.

A second key prediction that emerges from auction theory is that where there is uncertainty about the actual value of the item being auctioned, bidders often over pay by a large amount. Models of auctions with uncertain value often predict that the best possible bid is zero, since the winning bid may far exceed the underlying value of the item.

Finally, auction theory points out the importance of hidden and unknown information in auctions. The presence of hidden information often leads to undesirable outcomes for bidders in auctions. The existing owner of an NHL team and the league clearly know more about the underlying value of a team than any prospective bidder, no matter how much due diligence is exercised. This often provides the seller or supplier with a significant advantage in the auction. Cities may also be faced with this issue in negotiating with team owners. This will be discussed in the recommendations below.

Recommendations:

Funding model

As is outlined in the economic impact report we have submitted. It is difficult to justify the public subsidization of this facility based on economic impact arguments. However, when examining the sources of revenue which will be used to service the public investment, there may be grounds to justify the funding proposed by the Town of Markham based on the intangible benefits conferred by a new facility and the various forms of entertainment performing there (please see the intangible impacts section in the other economic impacts report submitted). As discussed there, a study by Johnson et al.

(2012) found that the willingness to pay (WTP) for a new arena built in downtown Edmonton and Calgary was approximately $13 per household in those cities. It is important to note that WTP in that study was not for the arena itself, it was for the placement of the arena in the downtown core as opposed to in a suburban location. This was not a study of WTP for the arena itself. Taxpayers in Markham would likely have a similar interest in having a state of the art facility in the downtown of Markham, but it would not be unreasonable to suggest that the amount would be even higher in Markham if taxpayers were surveyed regarding their WTP for an arena itself, and not just where it is located. Further, WTP would clearly increase with the acquisition of a major league tenant. For example, a study by Johnson, Mondello, and Whitehead (2007) found that WTP for a prospective NBA franchise in Jacksonville, FL was $81.60 per household over ten years. Santo (2007) found that WTP for a Major League Baseball team in Portland was $74M. It is our opinion that WTP in Markham for a new arena placed downtown might be substantial enough to justify the amount of public funds proposed in this project.

Lease terms

The arena is being contemplated in the absence of a major league tenant. It is anticipated that the lessee will seek out such a tenant in the hopes of using the facility as the host of a major professional team. I would argue that, in the presence of an anchor tenant, the value of this project to the Town of Markham is heightened considerably. This can be justified by the increased attendance guaranteed by the anchor tenant, and by the intangible benefits of being a host of a major league team. For this reason, I would recommend that a lease agreement be entered into with the lessee for a sum considerably higher than is currently being contemplated. This number would then decrease if a major league anchor tenant begins to use the facility.

At this point in time, there are no guarantees that a major league tenant will occupy the facility. This poses a risk to the Town of Markham. In addition, there is an information gap regarding the actual likelihood of this occurring. By structuring the lease in this manner, the following issues will be better resolved and/or addressed:

1) The immediate financial interests of the Town of Markham will be better protected as the Town will receive more revenues.

2) The long term interests of the Town will be protected should the facility NOT host a major league franchise.

3) The Town will mitigate the information imbalance that currently exists: If the lessee is confident that a major league tenant will be obtained, then this new agreement will be more desirable to the lessee in the long term. If a team arrives in the short term, this arrangement will realize immediate benefits.

4) If the lessee refuses to consider this option, it will signal to the Town how confident the lessee is in obtaining a major league franchise;

If the lessee refuses this option, the Town of Markham must maintain the option to end the agreement or renegotiate after a predetermined period (ie. 5-10 years).

For discussion purposes, the lease could be set at $3.3M per year. With the arrival of a major league tenant, this would drop to $1M. If the lessee will not consider this option, the lease could be structured to be at $1M, but either increase after a set amount of time (even without the arrival of a team), or to allow to Town of Markham to restructure or even terminate the lease in the absence of a major league team (say after 5 years).

Lease length

Most lease agreements between major league teams and publicly-owned facilities are negotiated for 25-30 year periods. An exception was San Jose, which had an initial 15 year lease. The Hurricanes have a 20-year lease with two five year options. Several other arenas have much shorter leases, some of which are used to bridge the team until a new facility is available (for example in Detroit). While these were for the teams specifically, I would suggest that any agreement between the Town of Markham and the lessee not exceed 30 years.

2) An overview of other lease agreements (where available) to provide context for the City

Please note: The figures contained in this report have been gleaned from both public sources and lease documents. While they are, to my knowledge, accurate, they may also not reflect the terms of current agreements due to source errors, renegotiated leases, or escalation clauses that change the amounts reported here. They are meant to be used as a guide and to give a sense of the lease landscape for NHL teams.

Anaheim Ducks

The team plays in the Honda Center owned by the City of Anaheim and operated by Anaheim Arena Management, LLC. The facility opened in 1993 and was built by Huber, Hunt & Nichols for $123 million. The facility was 100% publicly financed and Ogden Entertainment assumed the debt for the bonds issued by the city through a 30-year agreement. On December 13, 2003, the city of Anaheim reached a 30-year Facility Management Agreement with Anaheim Arena Management, LLC, which gave AAM the right to manage, maintain, and operate the Honda Center. In the nine years leading up to the new agreement in 2003, the City had to expend a total of $40.2 million more than it received in revenues for arena operations. The new agreement was crafted to reduce the public sector's responsibilities. Maintenance is now the responsibility of the franchise through its management company.

Atlanta Thrashers (relocated to Winnipeg in 2011)

The team played in Philips Arena, owned and operated by Atlanta Spirit LLC. The company owned the Thrashers and Hawks. The facility opened in 1999 and was built for $213.25 million. A total of $130.75 million in city-backed revenue bonds are being repaid from arena revenues. The Turner Broadcasting Company, the teams' owners at the time the facility was built, contributed $20 million to the project. A three percent tax on short-term car rentals generated $62.5 million of the capital cost of the facility. Public sector responsibility is limited to 29.3 percent of the total capital cost as long as arena revenues repay the bonds. The Atlanta Hawks franchise itself is the collateral for the loan. Given the region's market size and the high level of ticket sales for non-sports events there is little risk of foreclosure. The team agrees to play in the arena as long as there is outstanding public debt. The private firm is responsible for maintenance. Note: the high naming rights agreement with Philips (US$168M over 20 years) also reflects the exclusive rights Philips has to supply electronics to CNN.

Boston Bruins

The team plays at TD Banknorth Garden owned by Delaware North Companies, Inc. The facility opened in 1995 and was built for $160 million. Financing of the arena was private and the private firm is responsible for maintenance. The facility was built above a publicly-funded parking garage. The naming rights agreement also includes an $8 million pledge for arena improvements across 20 years, and $5 million for community improvement and/or tickets that will be made available for underprivileged children.

Buffalo Sabres

The team plays at First Niagara Center (previously HSBC Arena), built in 1996 at a cost of US$122 million; $67 million was from private funds. The state of New York invested $20 million. Erie County also invested $20 million and Buffalo provided $10 million. Erie County also agreed to provide $7 million for a parking structure. The facility is owned by Erie County as it is on city-owned land. An agreement between all of the parties has changed due to financial issues faced by the team. Erie County agreed that some of its revenue streams would be assigned to the team and New York forgave arena construction costs to owner, Tom Golisano (the team was sold to Terry Pegula in 2011 for $189M).

Calgary Flames

The team plays at Scotiabank Saddledome owned by the City of Calgary and operated by the Saddledome Foundation. The facility opened in 1983 at a cost of $143 million (US). Financial contributors included the province and city (each contributed $31.5 million) and the federal government ($29.7 million). The 1988 Olympic organizing committee contributed $5 million. In 1994, a management agreement transferred the physical operation, maintenance, and management to the Calgary Flames Limited Partnership removing responsibility for maintenance from the public sector. The major renovation resulted in the addition of 46 suites and 1,440 premium seats.

Carolina Hurricanes

The team plays at PNC Arena (renamed from RBC Center on March 15, 2012) owned by Centennial Authority and operated by Gale Force Sports & Entertainment. The facility opened in 1999 and was built for $158 million. Use of the arena is shared with North Carolina State University. The public sector assumed responsibility for 84 percent of the construction cost including a commitment from North Carolina State University ($28 million.) The Hurricanes' ownership contributed $25 million. Wake County's investment was $70 million and North Carolina invested $22 million. A sales tax refund provided the remaining funds. Public money was raised through bonds issued by city and county, repaid through food and hotel taxes. The public sector (via Centennial Authority) is 100 percent responsible for maintenance. The team pays $3 million in rent but has control of all revenues generated through sales inside the facility (including luxury seating, advertising, and profits from the sale of food and beverages).

Chicago Blackhawks

The team plays at the United Center; the arena is owned and operated by the United Center Joint Venture Corporation. The operating company is owned and managed by Rocky Wirtz and Jerry Reinsdorf. The facility opened in 1994 and was built for $175 million and was privately financed. Chicago did contribute to some infrastructure costs and the venue received some property tax abatements. The arena is managed by a firm owned by the Bulls and Blackhawks and is responsible for maintenance.

Colorado Avalanche

The team plays at the Pepsi Center owned and operated by Stanley Kroenke. The facility opened in 1999 and was built for $180 million. Use of the arena is shared with the Denver Nuggets (NBA) and the Colorado Mammoth (Lacrosse). The facility was privately financed but the public sector made contributions through construction sales tax rebates ($2.25 million) and annual property tax abatement minimally valued at $2.1 million. City also contributed approximately $4.5 million for infrastructure enhancements. The private firm is responsible for maintenance.

Columbus Blue Jackets

The team plays at Nationwide Arena formerly owned by Nationwide Mutual Insurance Company and managed by Spectator Management Group (SMG). The facility opened in 2000 and was built for $150 million. The facility was privately financed (Nationwide Insurance, 90 percent and Dispatch Printing owner of the local newspaper, 10 percent). Nationwide was able to reduce arena costs through the sale of personal seat licenses (ranging from $750 to $4,000/seat) and founder's suites (a one-time $2.5 million payment that provided a 25-year lease, tickets not included). The Blue Jackets were responsible for operating the arena (and controlling all revenues, hockey and otherwise) through 2010 and paid approximately $5M per year for these rights. Within this agreement, they were responsible for maintenance. However, competition from the arena built by The Ohio State University and the team's poor performance led to financial problems for the team and arena. In 2010, the Blue Jackets entered into an agreement with the Ohio State University to manage the arena as a "sister" facility to the one on the University campus. In addition, the facility was sold on February 12, 2012, to the Franklin County Convention Facilities Authority. The building is now overseen by an entity called Columbus Arena Management, with representation from the team, the University, Nationwide, and the FCCFA.

Dallas Stars

The team plays in American Airlines Center that is believed to have cost between between $380 and $420 million. The two teams (Dallas Stars and NBA Mavericks) agreed to pay all cost overruns and the public investment was limited to $125 million for the building and $30 million for infrastructure. The public sector uses a hotel and car rental tax to pay for the bonds it secured. The teams reportedly pay $3.4 million each per year and have 30-year leases. A management firm owned by the two teams is responsible for all maintenance and also receives all revenues earned at the facility. Teams have the option to purchase the arena for $1 at end of lease.

Detroit Red Wings

The team plays at Joe Louis Arena; the aging facility is owned by Detroit and operated by Olympia Entertainment (the holding company that also owns the Red Wings). The facility opened in 1979 and was built for $57 million; the bonds were paid by the city of Detroit. In exchange for control of arena, Olympia provides Detroit with 10 percent of all gate revenues, 7 percent of suite income, and 10 percent of concession profits. Olympia Entertainment is responsible for the maintenance of the arena but plans are being developed for a new facility.

Edmonton Oilers

The Oilers are currently in negotiations with the City of Edmonton to construct a new arena in Edmonton's downtown. The current facility, Rexall Place, is operated by Northlands (a non-profit that manages the facility on behalf of the City). The Oilers currently pay $1 per year to lease the facility (plus a contribution towards operating costs in the neighborhood of $1M per year), and share revenues with Northlands (for example, the Oilers receive suite revenues but only a portion of parking revenues for all events; Northlands receives revenue from a ticket tax on non-hockey events and the team for Oilers games).

Development of the new arena is ongoing; however, a negotiating framework has been approved by City Council under the following terms. The City will own the arena and the land. A price ceiling for the facility ($450M) has been guaranteed and the City will not be responsible for any cost overruns. The team owner will contribute $5.5M per year over 35 years to the development (representing a contribution of $100M), $125M will come from a ticket surcharge, another $125M will come from the City ($45M from a CRL and the remaining $80M from the redirection of the subsidy that is currently going toward Rexall Place and Northlands). The remaining $100M is sought from other levels of government. The Oilers have agreed to a 35-year location agreement, and are responsible for all operating expenses, capital maintenance, and repair.

Florida Panthers

The team plays at Bank Atlantic Center owned by Broward Country and operated by Spectator Management Group World. The facility opened in 1998 and was built using $184.7 million in public funds, with the remainder of the$212M construction costs covered by then-owner, Wayne Huizenga. The arena was publicly financed by Broward County, relying in part on a 2 percent hotel (tourism) tax, and also receives support from a state sports team rebate program. In return for using tourism tax as a funding mechanism, the team made available one 30-second commercial for tourism purposes per game telecast, and up to 50 tickets for each game was provided to Broward County for tourism promotion purposes. The team is responsible for $5.2M in annual debt payments. In June 2009 the Florida Panthers, the arena, and the land surrounding the arena were sold to Sports Properties Acquisition Group for $240 million. Cliff Viner took over control of the team and facility in 2010, and in that year he received some deferred debt assistance from Broward County (to be repaid with interest between 2013 and 2015). The private firm is responsible for maintenance.

Los Angeles Kings

The team plays at the Staples Center owned by the Los Angeles Arena Company and operated by AEG Worldwide. The facility opened in 1999 and was built for $375 million. Use of the arena is shared with the Los Angeles Lakers (NBA), the Los Angeles Clippers (NBA), the Los Angeles Sparks (WNBA), and the Los Angeles D-Fenders (NBA D-League). The public sector's commitment was limited to $38.5 million and the financial reserves of the Los Angeles Convention Center ($20 million) were also used. The public sector received dedicated revenue streams from the arena's operation and those funds have led to full settlement of its investment. Los Angeles continues to receive those revenue streams and those funds are now part of the general revenues collected by the city. The private firm is responsible for all maintenance.

Minnesota Wild

The team plays at Xcel Energy Center owned by the City of St. Paul and operated by Minnesota Sports and Entertainment (the team). The facility opened in 2000 and was built for $130 million. Use of the arena is shared with the Minnesota Swarm (lacrosse). The team contributed $35 million towards construction and a local sales tax supported $30 million worth of the capital cost. The State of Minnesota provided an interest-free loan of $65 million to be repaid with sales tax receipts. Minnesota waived $17 million of the debt if city made the arena available for 50 days/year for public events at no charge. The team controls the rights to sell naming rights. St. Paul is responsible for all maintenance but the team does pay rent for the use of the facility, as do other users.

Montreal Canadiens

The team plays at Bell Centre (La Centre Bell) owned and operated by the Molson Brothers (Geoff, Andrew, and Justin Molson). The team and the arena were reportedly sold to Molson for more an estimated $575 million. The previous owner bought team for $115.5 million and paid $66 million for the arena in 2001. The facility opened in 1996 and was built for $198.2 million (US). Molson Co. Ltd privately financed the arena. The private firm is responsible for maintenance.

Nashville Predators

The team plays at the Bridgestone Arena owned by the Sports Authority of Nashville and Davidson County. The Powers Management Company, a subsidiary of the Nashville Predators, operates the arena. The facility opened in 1998 and was built for $144 million. The arena was publicly financed through general obligation bonds issued by Nashville. The city also reportedly paid some of the team's expansion fee in order to attract a franchise. A 2008 agreement revised responsibilities for the arena. Powers Management Company is responsible for up to $1 million per year in maintenance expenses. If expenses surpass $1 million, the City of Nashville is responsible for the difference. If the team wishes to leave Nashville after June 2010, the exit fee is $20 million. In 2011, the exit fee increases to $25 million. Beginning in 2012, however, the team can terminate the lease if losses prevail for a settlement fee of $10 million. The exit clauses are linked to attendance and financial losses that must be documented.

New Jersey Devils

The team plays in the $375M Prudential Center, opened in 2007. The City contributed $210 million towards construction. The team agreed to contribute $100 million and to be responsible for any cost overruns. Newark receives 7 percent of suite revenues and 4 percent of all other revenues. All other revenues are retained by the Devils. The team owner has experienced financial difficulties which will likely impact the terms of the original agreement.

New York Islanders

The team plays at Nassau County's Veterans' Memorial Coliseum; the public owned facility is operated by the Spectacor Management Group. The facility opened in 1972 and was built for $31.3 million; Nassau County paid for the total cost of construction. Spectacor Management Group (SMG) is responsible for maintenance and retains earnings from the management and operation of the facility. The Islanders' rent is 11 percent of ticket sales and the team also gives the County some suite and other arena revenues. The Islanders are actively pursuing a new arena. Under the terms of a new arena agreement (which failed in a referendum in 201)1, Nassau County would have been guaranteed 11.5% of all arena revenues (Including the team's), or a minimum of $14M annually.

New York Rangers

The team plays at Madison Square Garden owned and operated by Madison Square Garden (MSG), Inc. The facility opened in 1968 and was built for $123 million. A $200 million renovation in 1990 was privately financed. MSG. is responsible for maintenance. MSG owns the Knicks (NBA) and Liberty (WNBA) and both teams play their home games at the facility. The facility has benefited from a 25-year old property tax exemption and the facility is currently undergoing a nearly $1 billion, privately-financed renovation of the facility during the off seasons of the Knick and Rangers.

Ottawa Senators

The team plays at Scotiabank Place. The arena is owned by Capital Sports Properties and is operated by Live Nation Canada. The facility opened in 1996 and cost US$146 million, including $27 million for infrastructure improvements. The arena was funded through private bank consortium loans, subordinated loans, and suite sales and fees. The infrastructure costs were publicly financed. The private firm, Live Nation Canada, is responsible for maintenance.

Philadelphia Flyers

The team plays at the Wells Fargo Center owned by Comcast Spectacor L.P. and operated by Global Spectrum. The facility opened in 1996 and was built for $210 million. The arena was largely privately financed with $35.5 million invested by the public sector (city and state) for infrastructure. Global Spectrum is responsible for all maintenance.

Phoenix Coyotes

The team plays at Jobing.com Arena, owned and operated by the City of Glendale. The facility opened in 2003 and was built for $220 million. The arena was funded by a $180 million contribution from the City of Glendale ($30 million in general obligation bonds and $150 in excise tax funding). The city planned to repay its debt from revenues generated from activities surrounding the facility. The Coyotes' owner agreed to pay for any cost overruns and to repay the city for its investment if the commercial property surrounding the arena did not generate enough money to offset the city's investments. The entire financial plan has collapsed and the team filed for bankruptcy protection. The City of Glendale is responsible for all maintenance and the costs for the facility's construction and new potential owners have each submitted bids that would require Glendale to assume responsibilities for all construction related expenses and maintenance. No new ownership group has yet been designated and the City of Glendale is now paying $25M per season to keep the team afloat while the NHL seeks a buyer.

Pittsburgh Penguins

The team plays at the new, $320 million Consol Energy Center owned by the Sports & Exhibition Authority of Pittsburgh. The team controls the arena and its revenues, operated by SMG. The team assumed responsibility for 38 percent of the cost; the balance of the funds were provided by the State of Pennsylvania drawing on revenues from gaming licensing fees collected from the owners of the Majestic Star Casino. The casino was to contribute $7.5M annually, while the team would contribute approximately $4M annually. Cost overruns were split between the team and the Authority ($15.5M each). The first $400,000 per year of revenues from parking are earmarked for a capital reserve to be used for arena repair and improvements. Costs above that amount are the responsibility of the team.

San Jose Sharks

The team plays at HP Pavilion at San Jose owned by the City of San Jose and managed by San Jose Sports & Entertainment Enterprises. The facility opened in 1993 and was built for $162.5 million. The arena was financed through City bonds and private equity ($132.5 million) and HP Pavilion Management ($30 million); as a result, 82 percent of the arena was financed by the public sector. A new current operating agreement splits the maintenance costs 50/50 between the team's management company and the city of San Jose.

St. Louis Blues

The Blues play at Scottrade Center owned by the City of St. Louis and operated by Sports Capital Partners. The facility opened in 1994 and was built for $135 million ($170 million including land costs). St. Louis contributed $34.5 million. This went toward demolition of existing building and garage, site preparation and new parking facility; the balance of the cost was assumed by the private sector and the management company, which is privately owned, is responsible for all maintenance.

Tampa Bay Lightning

The team plays at Tampa Bay Times Forum, owned and operated by Palace Sports and Entertainment (Jeff Vinik). The facility opened in 1996 and was built for $139 million, with the public sector assuming responsibility for almost two thirds of the cost, 62 percent. Public funding through state sales tax, county tourism tax, city parking, county and city ticket surcharge. The private firm is responsible for all maintenance and retains all arena revenues.

Toronto Maple Leafs

The team plays at Air Canada Centre owned and operated by Maple Leaf Sports and Entertainment. The facility opened in 1999 and was built for an estimated $265 million. The arena is shared with the Toronto Raptors (NBA). The arena was privately financed and the private firm is responsible for all maintenance.

Vancouver Canucks

The team plays at Rogers Arena, owned and operated by Canucks Sports and Entertainment. The facility opened in 1995 and was built for US$116 million (privately financed). The private firm is responsible for all maintenance.

Washington Capitals

The team plays at the Verizon Center owned and operated by Monumental Sports and Entertainment. The facility opened in 1997 and was privately built with the public sector investing $60 million for needed infrastructure improvements. The private firm is responsible for all maintenance.

Winnipeg Jets

The Jets relocated to Winnipeg from Atlanta in 2011. The facility cost $133.5M, of which $40.5M was from public sources. The facility is owned and controlled by True North Sports and Entertainment, which also owns the Jets. The private firm is responsible for all maintenance. MTS and True North renegotiated the naming rights agreement when the Jets arrived to reflect the new market value of the agreement.

Deliverable #3: A review of the economic impact projections found in the materials provided about Markham Project #44

Brad R. Humphreys, Professor, Department of Economics, University of Alberta

I found two economic impact projections in the materials provided on Project #44: a presentation describing an "Exploratory Economic Impact Analysis" and a report by N. Barry Lyons Consultants dated April 2011. Below I discuss these two documents and also offer an assessment of the expected economic impact in Markham based on the existing research on the economic impact of professional sports facilities.

Comments on "Exploratory Economic Impact Analysis" (Jan. 19, 2011 version)

I was provided with a PowerPoint presentation summarizing an assessment of the expected tangible economic benefits that would be generated by a new arena in the Town of Markham, dated 19 January 2011. No supporting documentation was provided, but my familiarity with this type of estimate allows me to make an assessment of these estimated economic impacts.

The introduction mentions both one-time benefits in the form of construction benefits and ongoing tangible benefits associated with spectator generated economic activity in Markham. The academic literature has pointed out that economic activity associated with the construction of a new sports facility should be classified as a cost, and not a benefit, and that inclusion of this type of economic activity as a benefit overstates the actual tangible economic benefits of a new sports facility.[1] Even the construction jobs associated with a new arena may not represent net new economic benefit. In an area with a low unemployment rate among construction workers, people employed building a new arena could have been employed elsewhere in the area, so counting these jobs as tangible economic impact overstates the benefits.

Forecasts of Attendance, Food and Beverage, Hotel, and Real Estate Impacts

By their nature, forecasts are estimates of events that will take place in the future. Most people are familiar with forecasts from personal experience. For example, weather forecasts help people to decide what to wear and what to do today or in the near future. To be a useful tool, a forecast must provide both an assessment of what will happen and an assessment of the likelihood that this event will happen.

[1] John Siegfried & Andrew Zimbalist, 2000. "The Economics of Sports Facilities and Their Communities," *Journal of Economic Perspectives*, American Economic Association, vol. 14(3), pages 95-114.

For example, a common weather forecast is: "there is a 75% change of rain through today and tonight." This forecast gives both an outcome (rain) and an assessment of the accuracy of the forecast (75%).

The forecasts of attendance, food and beverage sales, hotel room rentals, and real estate presented in the "Exploratory Economic Impact Analysis" are not useful forecasts. The outcomes are presented as exact values with no assessment of the expected accuracy of these forecasts. While this increases the perceived accuracy of these forecasts by implying that this exact number of tickets will be sold, hotel rooms will be rented, etc., it significantly reduces the usefulness of these forecasts, since the consumer of these forecasts is given no information about the likelihood that these outcomes will be realized. For example, from basic probability theory, the probability that attendance at junior hockey events held in Markham in five years will be exactly 225,000, as stated in the presentation, is zero, even if a team is playing at the arena at that time.

The food and beverage and hotel room rental forecasts also make unrealistic assumptions about the relationship between existing economic activity in Markham and the presence of a new arena in the future. Bars, taverns, restaurants and hotels currently exist in Markham. The presence of a new arena will have some impact on the existing establishments in the area. If a new establishment opens following the opening of the arena, this establishment will compete with the existing establishments in the area, and will likely reduce the sales at existing establishments.

The forecasts of the effect of a new arena on food, beverage and hotel room rentals do not account for crowding out, which has been established as an important factor in assessing the economic impact of professional sports facilities. People currently visit Markham in unknown numbers; these visitors eat in restaurants, drink in bars, and stay in hotel rooms. The forecasted increases in food, drink and hotel room rentals should be offset by the amount of crowding out that will take place in Markham. How much crowding out will take place? Unfortunately, this is difficult to determine. However, a recently published study of hotel occupancy rates in Canadian cities home to professional sports teams concluded that hotel occupancy rates in those cities were completely unaffected by past work stoppages in professional sports leagues. Hotel occupancy rates in non-strike months were nearly identical to hotel occupancy rates in strike months. This is consistent with 100% crowding out of hotel room rentals by visitors unrelated to sporting events by sports fans.[2]

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[2] M. Lavoie and G. Rodriguez, "The economic impact of professional teams on monthly hotel occupancy rates of Canadian cities," *Journal of Sports Economics*, 2005, volume 6, number 3, pages 314-324.

The analysis of the effect of a new arena on property values claims that property values in Columbus, Ohio "rose 12 times higher" after the construction of NationWide Arena. I am not aware of any such study. My own research on the effect of NationWide Arena on property values in Columbus finds an increase of about 10% in nearby housing values attributable to this arena.[3]

Economic Impact based on Provincial Input-Output Model

Regional input-output models are generally regarded as a poor tool for evaluating the economic impact of a new sports facility in a community. Despite their heavy use by proponents of sports-led economic development projects, the general consensus in the scholarly, peer-reviewed research literature is that the estimates of the direct, indirect, and induced economic impact of a new sports facility based on regional input-output models will be much larger than the actual realized economic impact.

The bottom-line estimate of the impact on GDP from the Input-Output model is $39 million per year. To put this estimate in context, a significant body of research published in peer reviewed journals carried out over 30 years finds zero economic impact, in terms of the effect on GDP, from the construction of new sports facilities in cities across North America. No previously opened professional sports arena or stadium opened in North America has ever been found to increase local GDP, based on careful statistical analysis of past economic performance in North American cities.

The problems with Input-Output based estimates of the economic impact of professional sports facilities are both numerous and well-documented. The presentation reviewed cites two of my previously published papers that provide detailed descriptions of many of these problems (The Stadium Gambit and Local Economic Development" and "Professional Sports Facilities, Franchises, and Urban Economic Development"). Since you have already identified these source documents, I see no reason to summarize the key points made in these papers. One point made consistently in these papers is that forecasts of tangible economic impacts from regional input-output models consistently and vastly overestimate the actual tangible economic benefits experienced by North American cities that built new arenas in the past.

Based on a significant body of research published in peer reviewed academic journals, the estimates of the economic impact of a new arena in Markham based on regional input-output models appears to be

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[3] Humphreys, B. and Feng, X. "Assessing the Economic Impact of Sports Facilities on Residential Property Values: A Spatial Hedonic Approach" 2008, IASE Working Paper #82. http://econpapers.repec.org/paper/spewpaper/0812.htm

significantly overstated. The existing body of research finds that previous construction of new arenas in urban areas across North America over the past 30 years were not associated with any detectable increases in GDP or employment in the local economy.

Overall, I find the estimates of the expected tangible economic benefits generated by a new arena in Markham presented in this presentation to be overstated and inconsistent with the evidence in the existing peer-reviewed literature on the economic benefits generated by sports facilities in North America. A large body of research based on retrospective analysis of the economic performance in cities across North America unambiguously concludes that professional sports facilities generate no new tangible economic benefits in the urban economy. This research has been carried out in a wide variety of settings and has examined a number of different indicators of economic activity, including GDP, consumer spending, employment, and tax revenues in large and mid sized cities in the US and Canada over a long period of time. Based on this literature, Markham should expect significantly less tangible economic benefits from a new arena than this presentation suggests. Below, I discuss the types of economic benefits Markham might expect to experience, based on the evidence from peer reviewed academic research.

Comments on "Land Values and a Major Sports Complex"
N. Barry Lyons Consultants (April 7, 2011 version)

This report assesses the potential effect of a new arena in Markham on residential and commercial property values in the area. The report assumes the presence of an NHL franchise in the arena. It is important to note that the potential impact of an arena without an NHL anchor tenant would be significantly reduced.

Overview of the Literature and Research

This section contains a number of factual errors. The paper cited by Charles C. Tu in footnote 1 was published in the journal *Land Economics* in 2005. It examined the effects of a football stadium in Washington DC on nearby property values, not the proposed new stadium in Santa Clara California.

The paper by Ahlfeldt and Maennig cited here analyzes property values in a European city, Berlin, Germany; the results in this paper may not generalize to property values in Canada, as the nature of the sporting events in European football stadiums differs significantly from those in North America. The shorter distances and easy rail travel between European cities and the fact that most football matches take place on weekends leads to significant numbers of fans travelling to the away matches of football teams in top domestic sports leagues. This generates significant new spending in areas around European football stadiums. NHL games do not attract this number of visiting fans.

I find the factual errors in this section troubling. A growing body of research examines the effect of sports facilities on property values in North America. The review here fails to discuss much of this literature that does apply to the case at hand, focuses on studies from Europe that may not generalize to this setting, and fails to correctly describe basic facts like the area of analysis in one of the papers reviewed. The literature review is incomplete and unfocused

Proforma Analysis

The report concludes that Markham can expect to experience an increase in both residential and commercial property values as a result of the presence of a new arena with an NHL team. This conclusion is generally supported by the existing research literature.

A number of studies have found evidence that the presence of a professional sports facility in an urban area can increase property values and rents in nearby dwellings. Note that this body of research examines only residential property values, not commercial property values. Evidence exists that rents for residential apartments increased in five US cities (Baltimore MD, Charlotte, NC, Jacksonville, FL, Nashville, TN and St. Louis, MO) that built new football stadiums and attracted new NFL teams in the mid 1990s.[4] Evidence exists that residential property values increased on dwellings in proximity to NationWide Arena, home of the Columbus Blue Jackets, after this facility opened in 2000. [5] This effect declined steadily with distance from the facility, and some of the effect can be attributed to the location of the arena in the central business district of the city. Evidence exists that the average value of dwellings in census block groups within five miles of the 126 stadiums and arenas in 45 US cities based on data from the 1990 and 2000 censuses.[6] These residential property values were about 15% higher census block groups within one mile of the facilities compared to house values farther away from the facilities. Evidence exists that the opening of a new sports facility was associated with a 20% increase in

[4] G. Carlino and N.E. Coulson, Compensating differentials and the social benefits of the NFL, *Journal of Urban Economics*, vol. 56 (2004) pages 25–50.
[5] Humphreys, B. and Feng, X 2008. See footnote 2.
[6] Feng, X. and Humphreys, B. R. (2007). The spatial impact of professional sports facilities on residential housing values: Evidence from census block-group data. ASE Conference Papers. International Association of Sports Economists.

residential mortgage applications in areas within 3 kilometers of 56 new stadiums and arenas opened in US cities over the period 1993-2008.[7] This increase in residential mortgage applications indicates an underlying increase in demand for residential property near professional sports facilities.

While other published research finds a smaller impact of professional sports facilities on property values, my understanding of this literature suggests that the Town of Markham can expect to experience increases in residential and commercial property values in proximity to a new arena, if a professional sports team serves as an anchor tenant. This supports the conclusions in this proforma analysis.

However, little is known about the impact of arenas with no anchor tenant in a top professional sports league in North America on property values. In addition, no research has focused on the potential negative impacts of the traffic, crowds, noise, trash, and crime associated with large numbers of people attending professional sporting events on the local quality of life, including property values. To the extent that these factors become important externalities in Markham, any increases in nearby property values would be mitigated to some extent.

What Economic Benefits Can Be Reasonably Expected From a New Arena?

A large body of research exists that examines the economic impact of professional sports facilities on cities using retrospective data. Rather than make forecasts, this literature analyzes past outcomes for evidence that observed changes in economic activity in cities was associated with new sports facilities or teams. A recent survey of this literature concluded that, despite the frequent disagreement among economists over all sorts of topics, there was remarkable agreement that professional sports facilities do not produce any tangible economic benefits in cities that build new facilities and attract new teams to these facilities.[8] The simple explanation for this remarkable consistency in results is that new sports facilities and teams simply move economic activity around from one place to another, and concentrates this economic activity at specific times that are readily observable. Researchers do not dispute the fact that professional sport generates significant economic activity. Anyone who has ever attended an NHL game cannot dispute the clear fact that a significant amount of economic activity takes place at these

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[7] Huang, Haifang & Humphreys, Brad, (2012) "Do New Sports Facilities Revitalize Urban Neighborhoods? Evidence from Residential Mortgage Applications," Working Paper 2012-5, University of Alberta, Department of Economics.
[8] Dennis Coates & Brad R. Humphreys, 2008. "Do Economists Reach a Conclusion on Subsidies for Sports Franchises, Stadiums, and Mega-Events?," *Econ Journal Watch*, Volume 5, Number 3, September 2008, pp 294-315.

events, in and around arenas. However, the vast preponderance of research published in peer reviewed journals strongly suggests that this economic activity does not represent new economic benefits for a community. The Town of Markham should expect a similar outcome.

Despite this evidence, it is possible that a new arena could generate new tangible economic benefits, in some specific instances. Economic models predict that new economic benefits must come from spending that takes place explicitly because of the new arena that would not have occurred if the arena was not present in an area. The literature clearly indicates that only this type of economic activity can generate net **new** economic benefits in an area. This spending can be made by businesses or consumers. Since most of the spending that takes place in an arena comes from individuals attending the games and events held in the arena, consumer spending makes up the majority of this economic activity.

In general, two types of economic activity match this definition. The first is spending by people who reside outside of Markham and come to the area to attend an event in the arena. Note that these people must come to the area explicitly to attend an event at the arena; if they happen to come to the area for some other reason, for example to attend a business meeting, and happen to attend an event at the arena, then their spending cannot be counted as new economic activity generated by the arena. The second type of economic activity is spending by residents of Markham that would have been made somewhere else outside the area that, because of the presence of the arena, is spent in Markham instead. Any spending made by these two groups generates new economic impact in the area and can be attributed to the arena.

These types of spending clearly take place in cities all over North America in association with new sports facilities. But the ability of an arena to generate new economic impact depends on the size of these pools of spending. Very little evidence about the number of attendees at events in arenas, or the amount spent by these individuals exists in the research literature. One rather dated study reported that 10% of attendees at MLB games in Baltimore in the late 1980s and early 1990s came from outside the area.[9] Unfortunately, the fraction of attendees in each group depends on a number of highly idiosyncratic factors like ease of access, the spatial distribution of the population in the vicinity, the perceived quality of the venue and the events relative to alternatives, and other difficult to measure

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[9] Hamilton, Bruce and Kahn, Peter, (1996), "Baltimore's Camden Yards Ballparks," Economics Working Paper Archive, The Johns Hopkins University, Department of Economics, http://EconPapers.repec.org/RePEc:jhu:papers:378.

factors. Any specific characteristics associated with a given arena or area that might increase the number of people that fall into one of these two categories can be expected to increase the net economic impact in an area. The large body of evidence reporting no net tangible economic impact associated with professional sports facilities throughout North America suggests that the number of people in these groups in the average city is very small.

Another type of economic benefits that can be expected to flow from a new arena falls into the category of intangible benefits, meaning that they are not easily measured in dollars and cents. A large number of intangible benefits generated by sports facilities have been identified. Foremost among the intangible benefits generated by an arena, and the professional team that plays in an arena, is prestige, often referred to as "world class city status." There are relatively few professional sports teams in North America – by design, as professional sports leagues are allowed to operate as legal unregulated monopolies – and cities that have a team clearly believe that this confers some type of special status on the area and its residents. Another type of intangible benefit is a sense of community or belonging that comes from having a civic asset like a professional sports team, or even a state of the art arena, in the area. This gives residents something to talk about and be proud of, and attending events together at an arena generates a sense of commonality and shared experience.

Other equally important but less discussed types of intangible benefits flowing from a new arena include an increased variety of entertainment activities available to residents, which has clear value, since economic theory predicts that consumers prefer more choices to fewer choices, and the advertising effect of a new venue that can help to raise the profile of an area relative to other communities without state of the art arenas.

Intangible benefits are an important component of the package of benefits generated by professional sports facilities. Economists have developed a standard, widely accepted approach to placing a dollar value on intangible factors, the Contingent Valuation Method (CVM). CVM has been widely used to estimate the value of environmental amenities like access to the ocean, clean air, and the presence of open space. Researchers have also applied CVM to the intangible benefits generated by the presence of a professional sports facility in a city. A recent study estimated the intangible benefits generated by a proposed new arena in downtown Edmonton at $24.6 million, based on a population of roughly one million residents; this works out to $13 per household per year in the Edmonton area.[10] The intangible benefits of a new arena in Markham should be comparable, if not larger.

In addition, Makham can expect to experience an increase in economic activity in the local real estate market if a new arena is built. Based on the research summarized above, residential property values can be expected to increase after the opening of an arena, perhaps by as much as 10%, above what they would have been absent the arena, as well as an increase in consumer demand for residential real estate by as much as 20%, based on the experiences in other cities across North America.

Finally, Markham could experience an increase in migration of new residents because of the presence of a new state of the art arena. Recent research on the determinants of choice of residence points out that some cities have experienced an increase in migration over the last decade, and identifies the presence of a rich variety of services and consumer goods as a critical urban amenity that might attract new residents to an urban area.[11] If a new state of the art arena constitutes an important urban amenity, and contributes to a rich variety of consumer goods in an area, then the Town of Markham could expect more new residents to move into the area after the opening. This would clearly generate economic benefits by increasing the tax base in the Town and increasing local spending and income. Unfortunately, no research has examined the effect of professional sports facilities and teams on the decision of households to move to a specific urban area, so this potential economic benefit is speculative at this time.

[10] Johnson, Bruce K., Whitehead, John C., Mason, Daniel S. and Walker, Gordon J., (2012), Willingness to Pay for Downtown Public Goods Generated by Large, Sports-Anchored Development Projects: The CVM Approach, No 12-01, Working Papers, Department of Economics, Appalachian State University, http://EconPapers.repec.org/RePEc:apl:wpaper:12-01.

[11] Edward L. Glaeser, Jed Kolko, and Albert Saiz, 2001. "Consumer city," *Journal of Economic Geography*, vol. 1(1), pages 27-50.