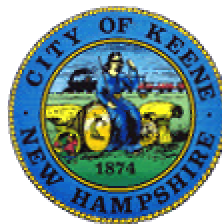


THE MERTON GROUP

MARKET RESEARCH REPORT¹

Prepared For

CITY OF KEENE, NH



OCTOBER 17, 2003

DRAFT

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1. INTRODUCTION

In this Report, The Merton Group (“Merton”) presents the results of the market research study performed as part of the Feasibility Study conducted for the City of Keene, NH (the “City”). This market research was focused on determining the feasibility of providing Municipal Broadband Network (MBN) services to the City, with such infrastructure potentially financed by municipal bonds. The MBN services are 100 Mbps data access and potentially enhanced video services using fiber to the home (FTTH). The primary focus of the market research effort was to ascertain if the City has the fundamental base of Internet users to convert and if this base of users would convert to the new service. A secondary objective was to ascertain what the interest and acceptance would be for new services such as digital video.

The main goal for this market research was simply:

“To establish the viability for conversion from an existing Internet service provider to an MBN interconnection in a wide enough user base to ensure bond coverage.”

The study has several key objectives. They are as follows:

1. Ascertain the current use of Internet and cable/satellite TV by key demographic metrics like age; from this analysis to determine if there are certain demographic factors in the City that are more favorable to conversion to the MBN.
2. Ascertain current Internet Service Providers’ penetration by key demographic metrics
3. Ascertain conversion rates to MBN for existing Internet and cable/satellite TV users by key demographic metrics
4. Ascertain price points for MBN acceptance; these must reflect the range of offerings from simple dial up replacement to fully enhanced 100 Mbps Internet along with enhanced video, telephony, server hosting and whatever else may be of interest

This Report summarizes the statistics collected from a residential mail-in survey commissioned and conducted by the City in _____ 2003.

2. METHODOLOGY

As part of the initial preparatory discussions for the market research effort, Merton suggested the following possible methodologies to the City for conducting the survey associated with the study:

1. *Intercept Interview*
A study conducted in person with respondents who are approached or intercepted in high traffic locations such as grocery stores or shopping malls.
2. *Mall Intercepts*
Interviews conducted in shopping malls by randomly selecting people from among those present to be screened. The main part of the interview can take place either on the mall floor or inside the offices of a data collection company located within the mall.
3. *Telephone Survey*
Respondents are interviewed via the telephone. The telephone interview is normally conducted from a central telephone facility.
4. *Mail-In Survey*
A standard survey questionnaire is mailed to a randomly selected portion of the total population of residences and/or businesses, or where reasonable, to the entire population of such parcels.

Of the recommended methods, the City chose to use the Mail-In Survey technique. The final questionnaires were prepared in close discussions with the City. Two different forms of questionnaires were developed to reflect different price points for conversion to the MBN. The final form of questionnaires is attached as *Exhibit A*.

In ____ 2003, the City of Keene mailed out the questionnaires, with a cover letter explaining the purpose of the survey, to approximately ____ residences in the City; ____ of the first form and ____ of the second were mailed. The questionnaires were not sent to businesses because they did not comprise the target market for purposes of the current MBN study. The residences were requested to return the questionnaire in stamped envelopes provided.

As of ____ 2003, the City had received 972 completed surveys, a return rate of __%, a high number in comparison to average return rates on mail-in surveys, typically about 5% -10%.

The accuracy of projections obtained, in other words, how representative the surveyed population is of the entire City population, depends heavily on the number of survey responses obtained. If 175 to 200 responses were obtained, then it would be possible to make projections with a +/- 7.5% accuracy with 95% confidence. With about 400 responses, the accuracy of the survey increases to +/- 5%. In other words, with about 400 responses, a sample survey of current Keene residents would differ no more than +/- 5% than if all Keene residents were contacted and included in the survey. Further, if the survey were replicated, the statistics would fall within the margin for error 95 out of 100 times.

Merton processed and analyzed the 972 responses to generate the results in this Report. This sample size, as explained above, yields accuracy in results of better than +/- 2%.

3. HIGHLIGHTS

3.1 *Internet Access Demographics*

1. About 76% of Keene households have Internet access
2. About 54% of Keene homes use dial-up Internet access, 9% use cable modem, 12% use DSL and less than 1% use satellite; penetration of “broadband” is moderate at 22%.
3. About 9% of households use AoL, 10% use Time Warner, 9% use MSN, 9% use Monadnet, 9% use Verizon, 8% use Cheshire.net, 6% use Prexar and the remaining 14% use other service providers.
4. About 36% of homes want higher speed in their Internet access, while 31% want cheaper rates and 3% want better service.

3.2 *Cable TV Demographics*

1. About 83% of Keene homes have cable TV, 9% have satellite TV service, about 3% have both, and the remaining 6% have neither.
2. 83% use Time Warner, 6% use DirecTV, 3% use Dish Network and about 1% use other providers.

3.3 *Telephone Demographics*

1. About 63% of homes use a single line while 23% of households have two or more telephone lines. About 14% have no land lines, indicating that such homes perhaps use only cell phones.

3.4 *Municipal Broadband Network Services*

1. **About 77% of Keene homes are in favor of the City building its own broadband network as long as it does not increase their taxes.**
2. **About 27% of households are likely or very likely to switch to the MBN for broadband Internet access at the price of \$40 per month.**

The minimum size of the MBN Internet market can be expected to be 13% of households and the maximum size about 49%. Merton estimates the market size to be 27% of homes. The market for MBN Internet is slightly weak, but with good upside potential, at the price point of \$40 per month.

3. **About 40% of homes are likely or very likely to switch to the MBN for video services at the price of \$40 per month.**

The minimum expected market size for MBN video services is 23% of households and the maximum expected is 65%. Merton estimates the market size to be 40%. The market for MBN video is therefore very strong and robust.

4. About 33% of the households where the decision maker is less than 65 years old are likely or very likely to switch to the MBN for broadband Internet access at \$40 per month. This segment forms almost 70% of all households in Keene.
5. Only about 11% of the homes where the decision maker is over 65 years old are likely or very likely to switch to the MBN for broadband Internet access at \$40 per month. This segment forms 30% of all homes.
6. About 49% of current cable modem and 40% of DSL users are likely or very likely to switch to the MBN for broadband Internet access at \$40 per month.
7. About 44% of homes where the decision maker is less than 65 years old are likely or very likely to switch to the MBN for video services at \$40 per month.

8. About 30% of homes where the decision maker is over the age of 65 are likely or very likely to switch to the MBN for video services at \$40 per month.

3.5 General Statistics

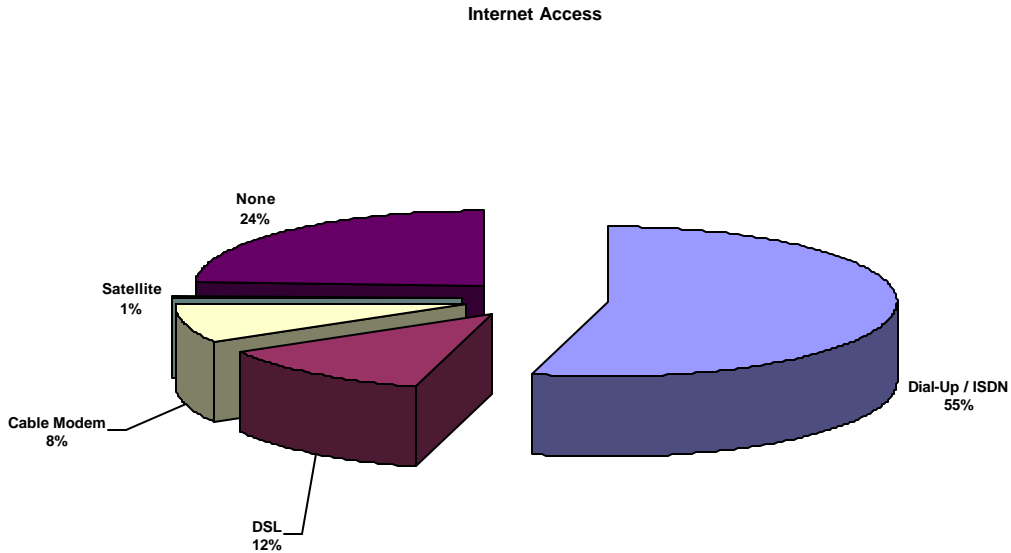
1. About 79% of homes have a personal computer.
2. 45% of homes use a PC for personal use, and 34% use a PC for both personal and business use.

4. DETAILED RESULTS

4.1 Internet Market Statistics

4.1.1 Internet Access Usage

The survey asked the respondents what kind of Internet access service they had at home. The choices provided were dialup, cable modem, DSL and satellite. The results are shown below.

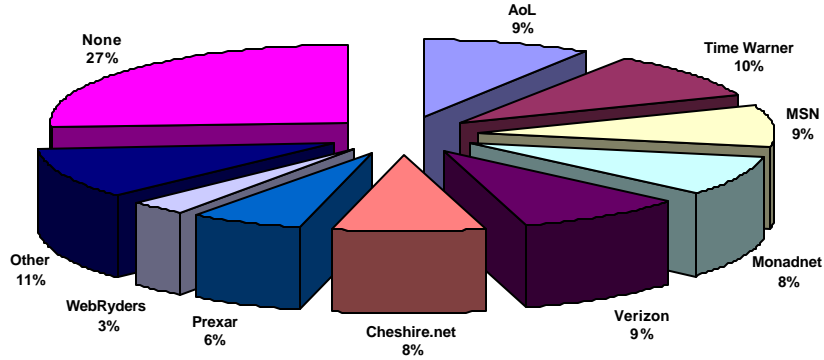


The results clearly show that there is a moderate penetration of “broadband” data service in the City, about 22% comprising cable modem, DSL and satellite Internet service. Dial-up is 55% while 24% have no Internet access at all.

4.1.2 Internet Service Providers

The respondents were then asked who their ISP is; the choices provided were AoL, MSN, and Time Warner. The results are show below. Clearly, the market is highly fragmented, with no one ISP dominating. Time Warner holds the highest market share, about 10%. The other major ISPs and their usage are shown below.

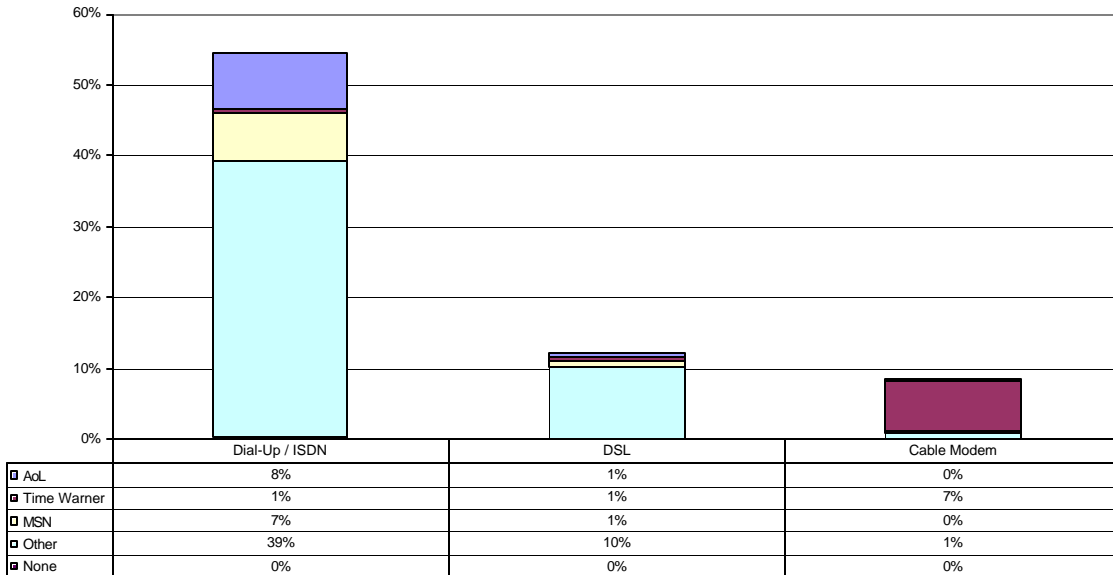
Internet Service Providers



4.1.3 ISP Market Share

The market share of the various ISPs in the City, segmented by the service offered, is shown below.

Market Share Internet



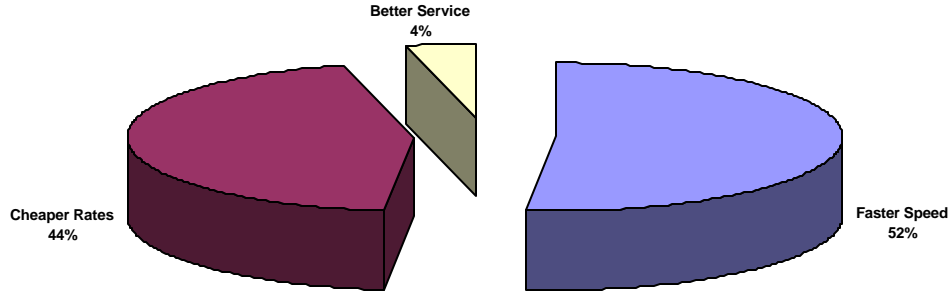
The dial-up market is highly fragmented among many ISPs. DSL is primarily from Verizon while cable modem is mostly provided by Time Warner.

4.1.4 Desired Improvement in Internet Access

The survey was also targeted at determining the psychographic profile of Internet users in the City. The survey asked what the respondents would like to see changed/improved about their Internet access service.

About 44% indicated that they would like to have cheaper service and 52% said they would like to have higher speed of access. About 3% desired better service.

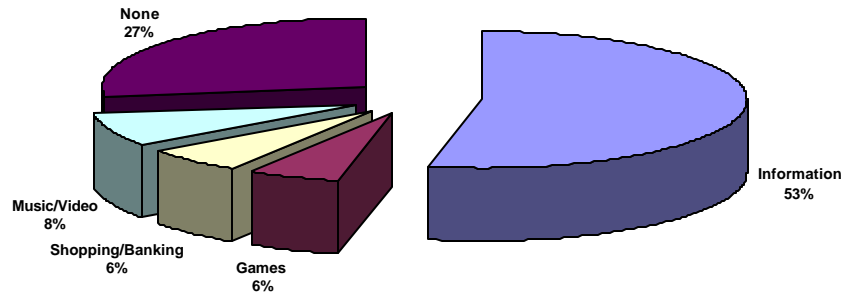
Desired Change in Internet Service



4.1.5 Broadband Applications

In order to understand the market for broadband services, and to determine what the City residents would use the Internet for if they had broadband access, the survey asked what specific applications, other than the most common tasks of email/chat, the respondent would use the Internet if they had very high-speed access; the choice provided were Information (research, news, etc.), Games, Shopping/ Banking, and Music/Video comprising entertainment. This information is valuable to ISPs who wish to deliver broadband services over the MBN. The results indicated that the vast majority would use broadband for Information. The potential usage of other broadband applications appears to be weak; however, it must not be ignored that the residents of the City have not had an opportunity to experience these other enhanced services because of lack of broadband infrastructure as well as lack of broadband providers. Perhaps, the availability of such premium services at affordable costs might spur demand.

Broadband Applications

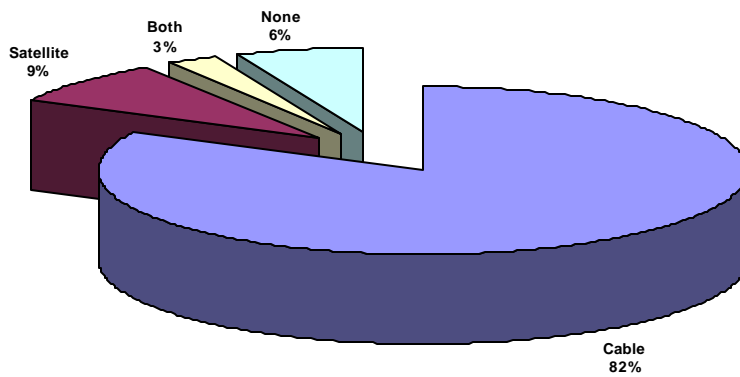


4.2 Cable TV Market Statistics

4.2.1 Cable / Satellite TV Usage

In order to understand the penetration of cable or similar services in the City, the respondents were asked what kind of cable or dish TV service they used at home. From the results, it is clear that almost 94% of City residents use cable or satellite TV service, or both. The breakout is shown below.

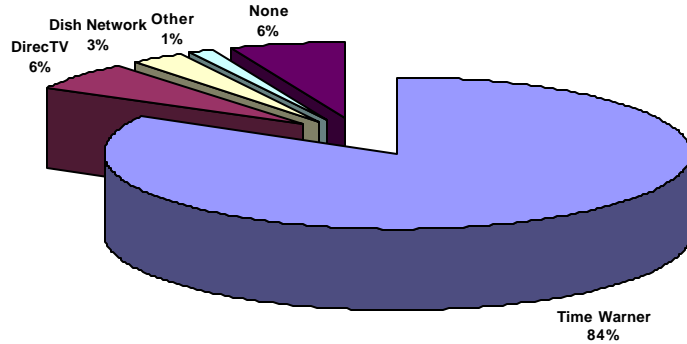
Video Services



4.2.2 *Cable / Satellite TV Provider*

The survey also asked who the respondent's video service provider is. The results are shown below. Time Warner is the cable TV franchisee in the City. DirecTV has the largest share of the satellite market.

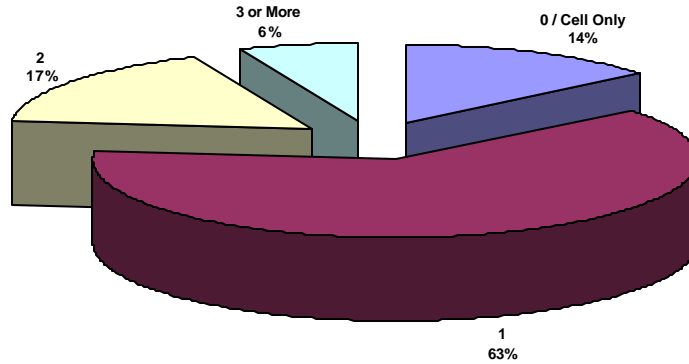
Video Service Providers



4.3 *Telephone Service Statistics*

The survey was also targeted at understanding the current telephone service demographics in the City. More importantly, the segment of the population, which uses more than one telephone line, represents the initial target market for conversion to the MBN. This is because a household is probably paying about \$25 to their ISP and another \$25 for the second telephone line dedicated to data/fax. With the MBN, the second telephone line could be eliminated, and the end-user could be paying the same total of \$50 to an ISP for 10+ Mbps Internet access service. This segment of the population therefore represents the "low hanging fruit" for transfer to the MBN. The results are shown below; about 23% have more than one line. About 14% have no land lines at all.

Number Telephone Lines



4.4 MBN Internet Access

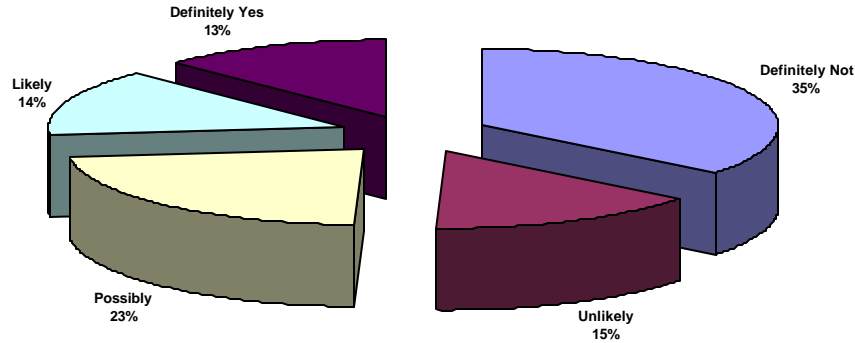
As alluded to before, this market study is primarily targeted at measuring the adoption of new services enabled by the MBN, including 100 Mbps data service and enhanced digital cable services. This information is cross-tabbed with key demographic factors to understand which segments of the market will be the potential user base, and what the price sensitivity is of that potential user base.

The survey was targeted at determining the “take rate” or rate of adoption to MBN services at two different price points (\$40 per month, \$60 per month) for two different services (100 Mbps Internet access, enhanced digital video services). The questions were asked in two different forms of the questionnaire as alluded to before in order to eliminate any psychological biases in having two price points in the same questionnaire; respondents might be biased to be inclined to the lower price point and strongly disinclined to the higher price point if both appeared on the same questionnaire. The above adoption rates were then segmented by key demographic metrics, including age and current type of Internet/ cable TV connection.

4.4.1 MBN Internet Adoption Rates

The respondents were asked the question how likely they would switch to a broadband Internet service that would be dramatically faster than what they currently have today. Two different forms of the questionnaire was developed to ask the above question at two different price points for the new service; \$40/month and \$60/month. The results are shown below for the price point of \$40. The percentages in the Valid Percent column indicate the proportion of households responding with the respective affirmative or negative reaction. The results are slightly weak, with 27% likely or very likely to switch. However, there is good upside opportunity, measured by adding the number of “Possibly” responses, to increase market size, perhaps through effective marketing of MBN services as well as education of the residents of the capabilities of MBN.

MBN Broadband Internet at \$40/Month

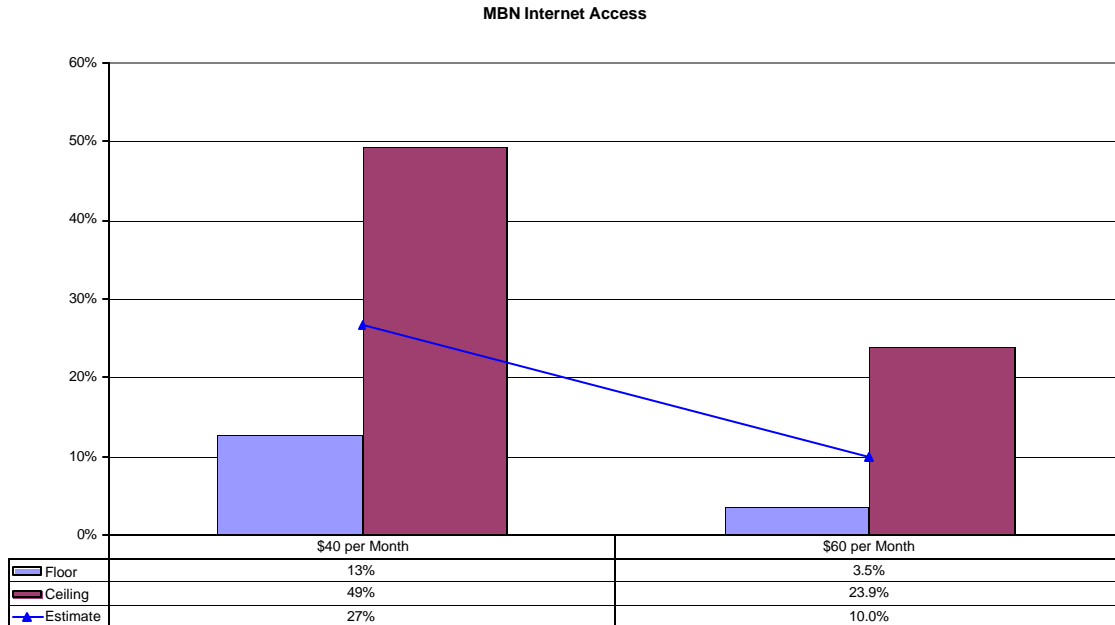


The results at the price point of \$60 are shown below. Again, the Valid Percent column indicates the proportion of respondents with the affirmative or negative responses. The results show a very weak market base at this higher price, with only about 10% likely or very likely to accept the new service at \$60/month.

11. Would you be willing to pay \$60 per month to replace your current Internet service with a very high speed Internet connection that is 1000 times faster?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely Not	253	26.0%	55.0%	55.0%
	Unlikely	97	10.0%	21.1%	76.1%
	Possibly	64	6.6%	13.9%	90.0%
	Likely	30	3.1%	6.5%	96.5%
	Definitely Yes	16	1.6%	3.5%	100.0%
	Total	460	47.3%	100.0%	
Missing	Errors	512	52.7%		
Grand Total		972	100.0%		

4.4.2 MBN Internet Price Sensitivity

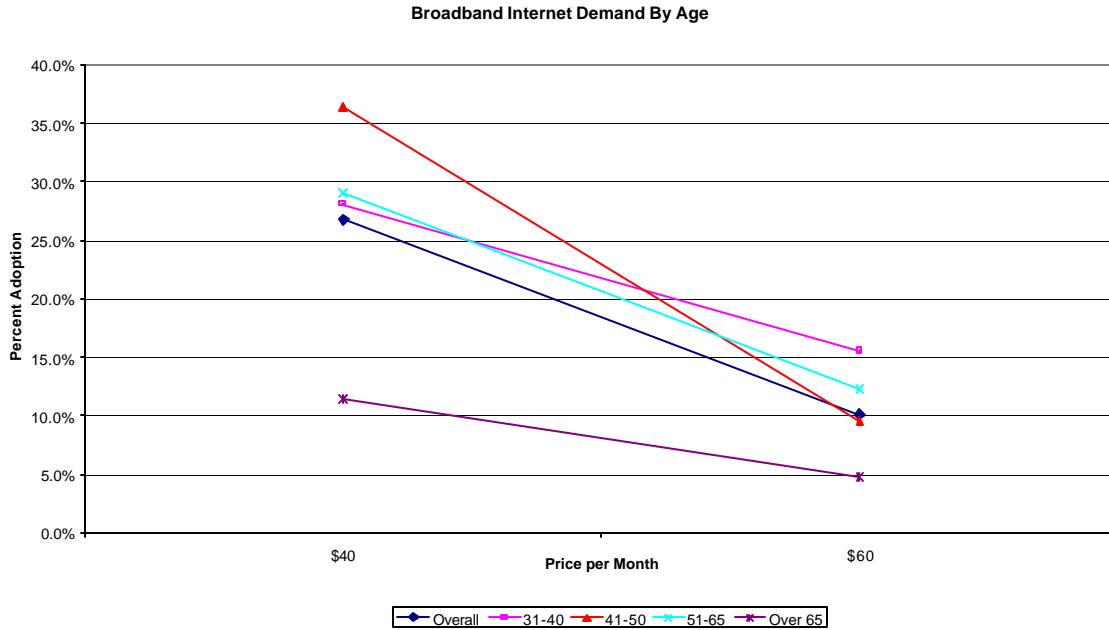
The “floor” or minimum potential market for Internet access on the MBN was established as those respondents who answered “Definitely Yes”. The “ceiling” or maximum potential market was defined as those who answered “Likely” and “Possibly” in addition. Merton, however, estimates the market potential as only those respondents who answered “Definitely Yes” and “Likely”. The results of these estimates are presented below. Clearly, the market potential for MBN broadband Internet is slightly weak even if priced at \$40 per month, and declines very sharply if priced at \$60/month. The implication is that the residents of the City are very price sensitive to Internet access service.



The above MBN Internet access results was further segmented by age of the respondent to get a better idea of which population segments to target for provision of MBN broadband Internet services. The results are presented in the chart below. These are the “demand curves” for MBN broadband Internet service.

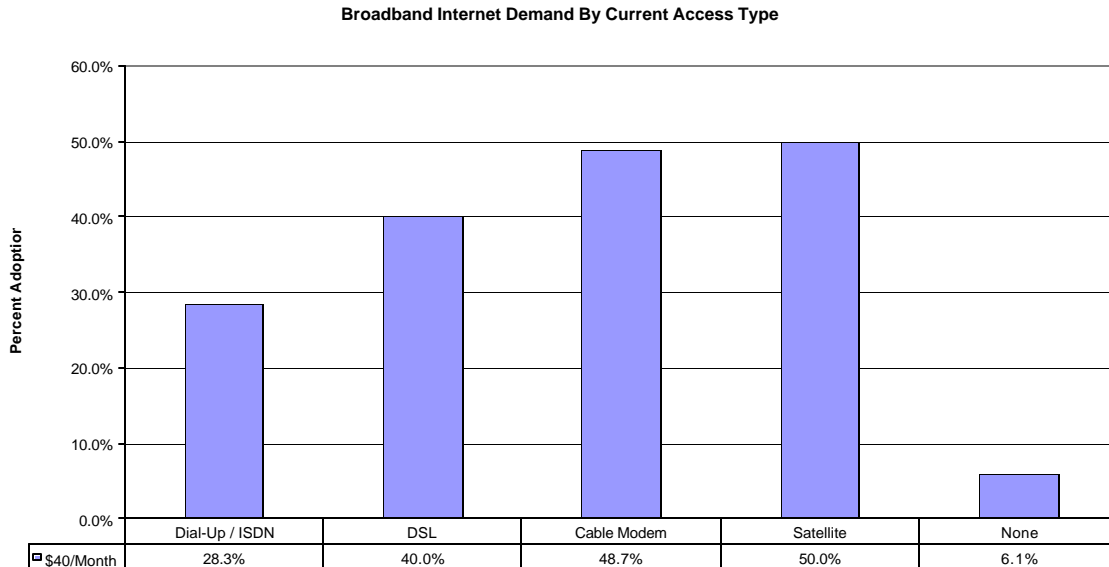
Two facts are very evident from the chart:

- There is a wide difference in interest in broadband Internet access across different age groups, varying from 36% amongst the 41-50 respondents to about 11% amongst the senior citizens of the City (over 65 years old) at the low end, at \$40 per month. The demand for Broadband Internet among the senior citizens of the City is extremely weak.
- The demand for broadband Internet is very sensitive to the pricing. At \$40 per month, the overall demand is 27%, falling to 10% at \$60 per month. According to this trend, if broadband Internet access were offered at say \$50 per month, the estimated demand would be approximately 18%.



4.4.3 MBN Internet Adoption by Current Access Type

The MBN broadband demand was also segmented by the type of Internet access service that the respondents currently have, i.e., dialup, cable modem, DSL or satellite. This greatly helps to better understand to what extent the current users of dial-up and DSL/cable modem type services would switch to a much faster service offered by the MBN. The analysis was performed at the price point of \$40 per month. The results are shown in the chart below.



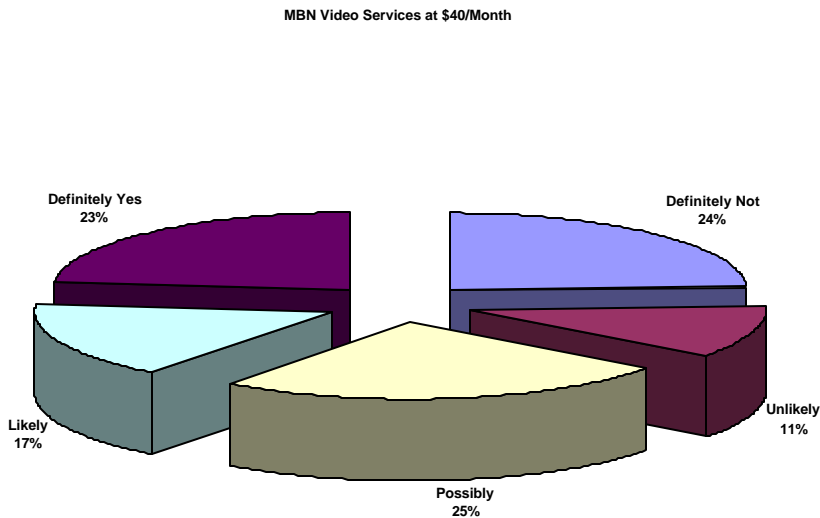
It is an interesting observation that about 49% of current cable modem users and 40% of DSL users comprising 21% of the City are likely to switch to the MBN level broadband service (10-100 Mbps) if the

price were \$40 per month. However, only 28% of current dial-up users will switch, and only 6% of users who do not have Internet access are willing to buy MBN Internet at \$40. The indication is that dial-up users are extremely price sensitive, and people who do not currently have Internet access are not interested in broadband at said price point.

4.5 MBN Video Services

4.5.1 MBN Video Adoption Rates

The respondents were asked the question how likely they would switch to enhanced video services on the MBN that would provide dozens of channels of programming. The survey asked this question at the two different price points, \$40/month and \$60/month, in two different forms of questionnaires. The results are shown below. The table below shows the results at the \$40 price point. The percentages in the Valid Percent column indicate the proportion of households responding with the respective affirmative or negative reaction. The results are strong, with 40% likely or very likely to switch.

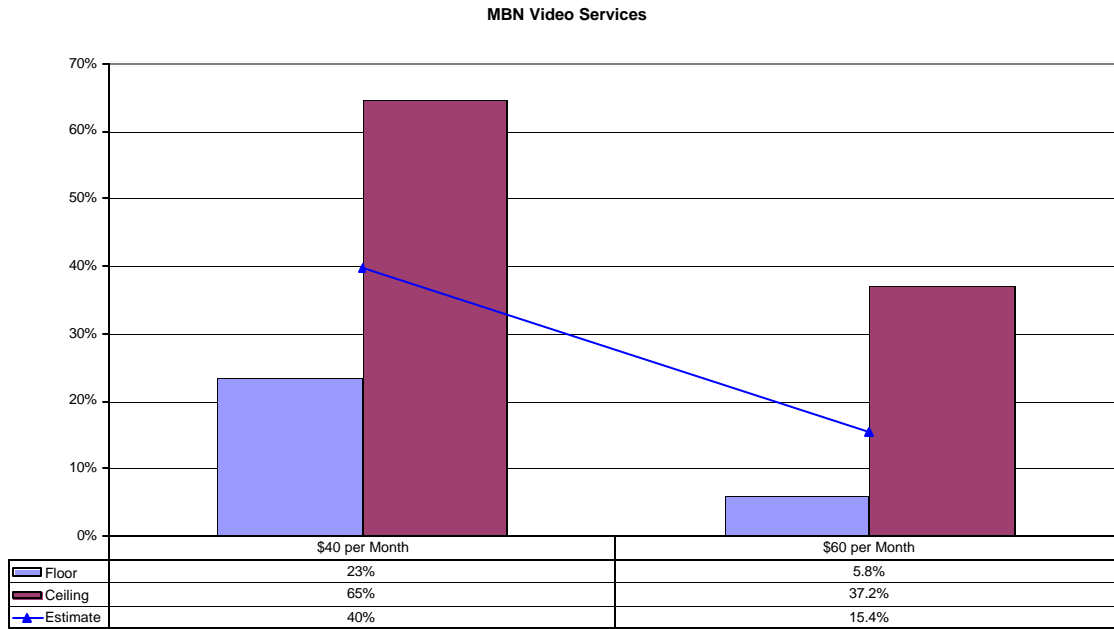


The results at the price point of \$60 are shown below. Again, the Valid Percent column indicates the proportion of respondents with the affirmative or negative responses. The results show a very weak market base at this higher price, with only about 15% likely or very likely to accept the new service at \$60/month.

12. Would you be willing to pay \$60 per month to replace your current cable/satellite TV service with high quality video service with dozens of channels of news, sports, music and movies?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely Not	215	22.1%	44.9%	44.9%
	Unlikely	86	8.8%	18.0%	62.8%
	Possibly	104	10.7%	21.7%	84.6%
	Likely	46	4.7%	9.6%	94.2%
	Definitely Yes	28	2.9%	5.8%	100.0%
	Total	479	49.3%	100.0%	
Missing	Errors	493	50.7%		
Grand Total		972	100.0%		

4.5.2 MBN Video Price Sensitivity

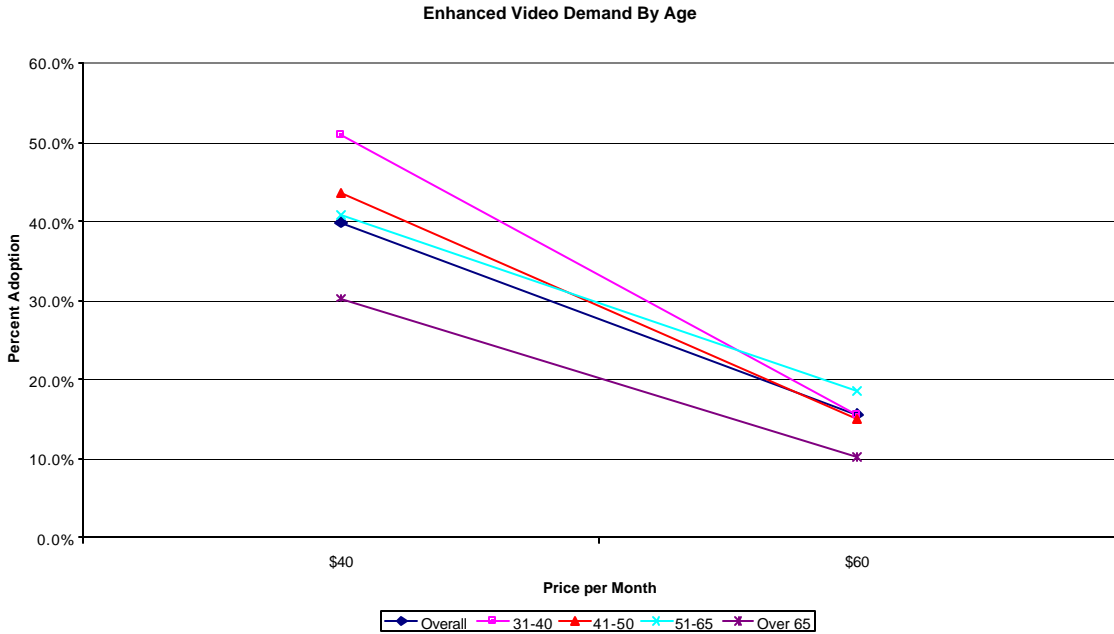
The “floor” or minimum potential market for enhanced video services on the MBN was established as those respondents who answered “Definitely Yes”. The “ceiling” or maximum potential market was defined as those who answered “Likely” and “Possibly” in addition. Merton, however, estimates the market potential as those respondents who answered “Definitely Yes” and “Likely”. The results of these estimates are presented below. The market for MBN video appears to be substantial and robust, holding good potential at the \$40/month price point. Also, the residents of the City are less price sensitive to the price of their video services compared to their Internet access services.



The above MBN video demand information was further segmented by age of the respondent to get a better idea of which population segments to target for provision of MBN video services. The results are presented in the chart below. These are the “demand curves” for MBN video.

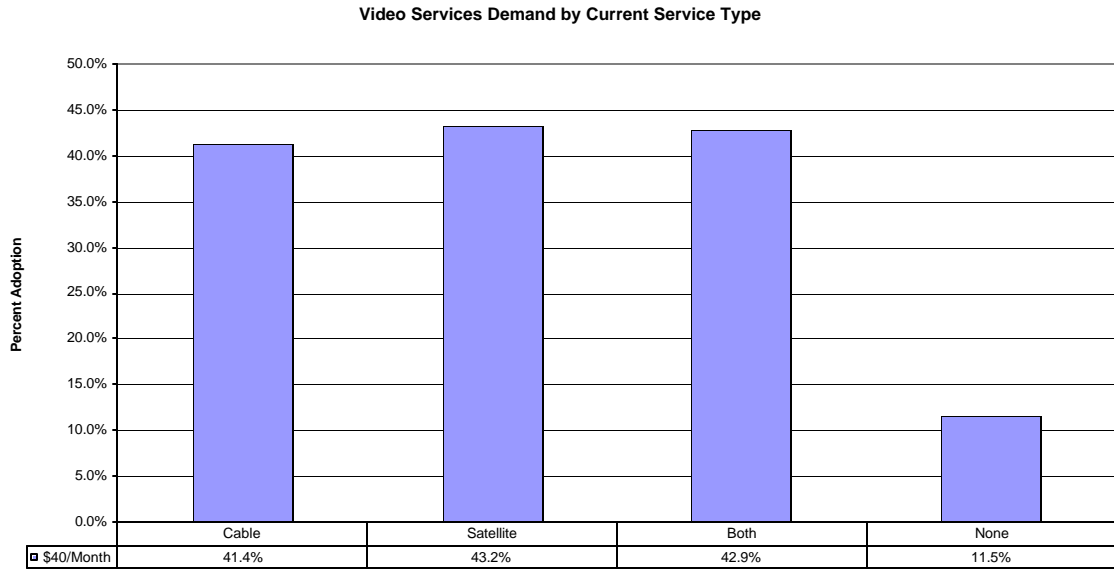
Two facts are very evident from the chart:

- There is a large variation in interest in enhanced video services across different age groups, varying from 51% amongst the 31-40 age group to about 30% in the over 65 age group on the low end, at \$40 per month.
- The demand for enhanced video is quite sensitive to the pricing. At \$40 per month, the overall demand is 40%, falling to 15% at \$60 per month. According to this trend, if broadband Internet access were offered at say \$50 per month, the estimated demand would be approximately 28%.



4.5.3 MBN Video Adoption by Current Access Type

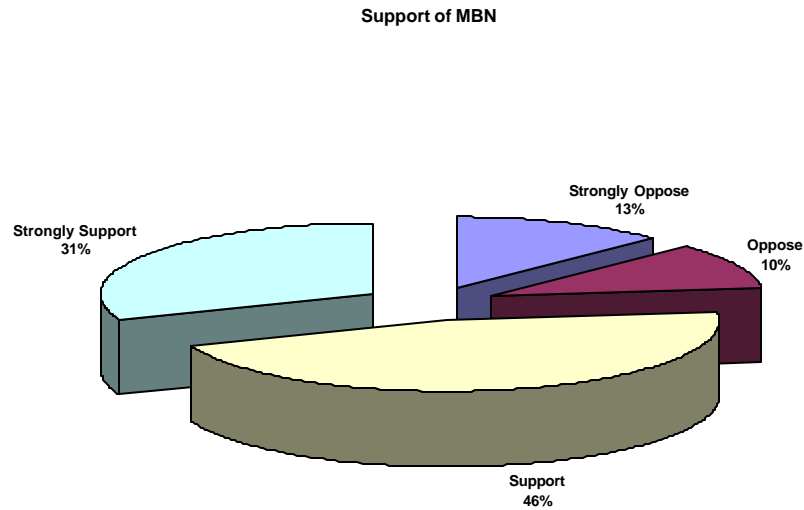
The demand for enhanced video services was also segmented by the type of cable/satellite service that the respondent currently subscribes to. The results are shown below.



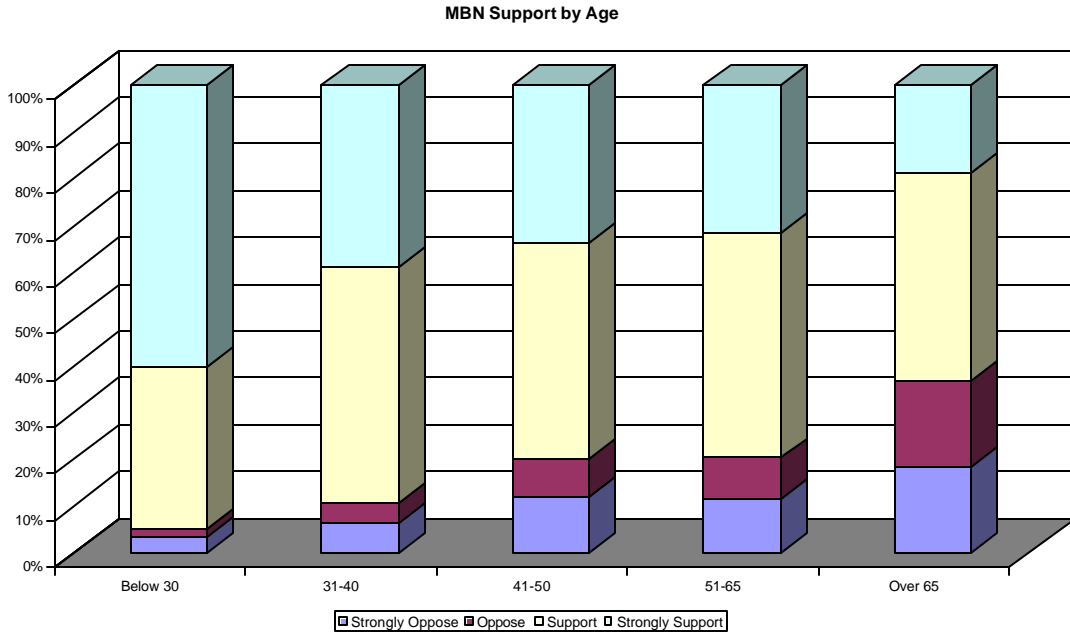
Clearly, there is a propensity for the current subscribers of both cable and satellite TV services to switch to MBN video at \$40/month because they are likely paying more than \$40 now. Residents who do not currently have video service do not appear to be interested in MBN video either.

4.6 MBN Support

To determine the predisposition of the citizens of Keene to a City-built fiber facility, the survey asked the question to what extent the respondent would support or not support such an initiative by the City *if it did not increase their taxes*. It appeared from the completed questionnaires that the driving factor behind the strong support, almost 77% of households, of such an initiative may have been the fact that the question specified that there would not be an increase in taxes as a result of the MBN. The survey did not ask the above question under the scenario of an increase in taxes as a result of the MBN.



The responses to the above question was further segmented by age of the respondent to better understand the segments of the population that the MBN needs to be marketed to more intensely. The results are shown below.



The results indicate that the strongest support for MBN comes from the 21-30 and 31-40 age groups, with over 90% supporting or strongly supporting the initiative. The significantly weaker support is from the senior citizens in the City, the 65 or above age group, with about 70% in support of MBN.

4.7 MBN Demand by Sector and Street Location

The survey also attempted to determine the number of households who are likely to switch to MBN Internet or video services by the location of their street in the City. The respondents were asked to provide the name of the street on which they live (not their street address). Merton then cross-tabulated the street information with the demand data for MBN Internet and video services at both price points of \$40/month and \$60/month, and arrived at a metric of demand by street location. The metric for a given street simply measures the number of households on that street who are either likely or very likely to switch to MBN services at \$40/month as a percent of the number of households on that street who responded. Such results are expected to be useful in determining, or at least influencing, the initial and ongoing design of the buildout of the MBN in the City.

The results of demand by street location from the survey are influenced by the number of households on a given street participating in the survey. Although the questionnaires were sent out by the City to randomly selected households, some streets had many more households responding than did others; such a bias could potentially be eliminated by surveying every household on every street, not a cost-effective solution. In addition, there are significant differences in number of households on the various streets in the City.

Notwithstanding the above, the results in the chart below give an idea for the geographical dispersion of MBN demand in Keene. In the interest of readability, the chart presents only those streets that had at least five households responding.

[CHART TO COME]

4.8 General Demographics

4.8.1 Age

The column “Valid Percent” represents the age distribution of the respondents.

1. What is your age group?					
		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Below 30</i>	61	6.3%	6.3%	6.3%
	<i>31-40</i>	117	12.0%	12.2%	18.5%
	<i>41-50</i>	188	19.3%	19.5%	38.0%
	<i>51-65</i>	307	31.6%	31.9%	70.0%
	<i>Over 65</i>	289	29.7%	30.0%	100.0%
	<i>Total</i>	962	99.0%	100.0%	
<i>Missing</i>	<i>Errors</i>	10	1.0%		
<i>Grand Total</i>		972	100.0%		

4.8.2 Size of Household

2. How many people are there in your household?					
		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>1</i>	164	16.9%	17.0%	17.0%
	<i>2</i>	446	45.9%	46.4%	63.4%
	<i>3</i>	123	12.7%	12.8%	76.2%
	<i>4</i>	162	16.7%	16.8%	93.0%
	<i>5 or more</i>	67	6.9%	7.0%	100.0%
	<i>Total</i>	962	99.0%	100.0%	
<i>Missing</i>	<i>Errors</i>	10	1.0%		
<i>Grand Total</i>		972	100.0%		

Based on the above data, the average size of a household in the City is 2.5.

4.8.3 Personal Computer Use

3. Do you use a personal computer at home?					
		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	<i>Do Not Use</i>	206	21.2%	21.4%	21.4%
	<i>Home Only</i>	431	44.3%	44.8%	66.1%
	<i>Home & Business</i>	326	33.5%	33.9%	100.0%
	<i>Total</i>	963	99.1%	100.0%	
<i>Missing</i>	<i>Errors</i>	9	0.9%		
<i>Grand Total</i>		972	100.0%		

It is important to note that a fairly large percentage of households in Keene, about 34%, use a personal computer at home for both personal and business use. This is a significant factor suggesting that these households would derive substantial benefits from the MBN for broadband Internet as well as other enhanced services.

5. EXHIBIT A: MARKET RESEARCH QUESTIONNAIRES