Kingston Waterfront Flooding Task Force

Adaptation Neighborhoods and Proposed Strategies

Survey Summary and Results

May 16, 2013

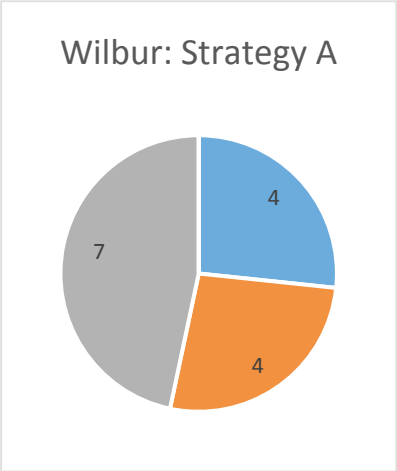
Summary of Survey

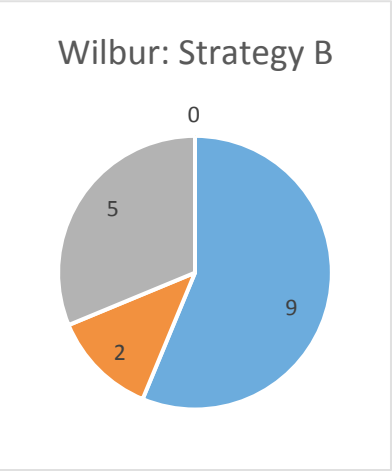
A survey was made available online to the Kingston Waterfront Flooding Task Force and other interested parties from April 26th through May 12th, 2013. The survey outlined proposed adaptation strategies for 11 stretches of the Kingston Waterfront. These "adaptation neighborhoods" and strategies were determined by a subcommittee meeting and presented to and refined by the task force members at the fourth meeting. This document provides a summary of responses (pages 1-7) and then the complete answers as submitted (in the appendix, pages 8-22).

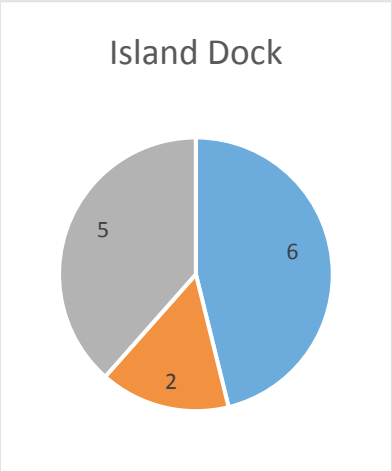
17 people fully responded to survey, 14 (82%) of which are members of the Task Force:

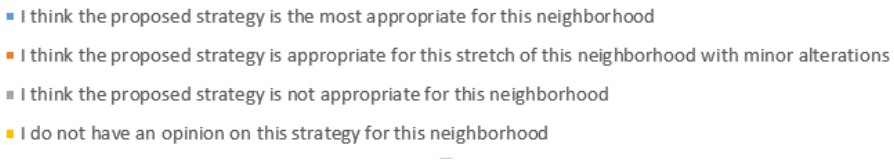
Respondents voted on the appropriateness of each adaptation strategy for that given stretch of the Kingston Waterfront

About half of the neighborhood strategies for flooding adaptation received agreement across survey respondents. All respondents agreed that the strategies for West Abeel, Lighthouse, Kingston Point, Sailor's Cove and AVR are appropriate as is or with minor alteration. Answers were most divided on the Wilbur and Island Dock neighborhoods. The Wilbur adaptation neighborhood contained two proposed strategies. Strategy A (relocate recycling and Feeney's, flood-proof structures, and soften shoreline) was appropriate as is or with minor alteration to 52% of survey respondents, while Strategy B (harden and elevate shoreline, and flood-proof structures) was to 69%. For Island Dock, 62% of respondents found the strategy appropriate (as is or with minor alterations) and 38% found it not appropriate.









Respondents provided guidance on "minor alterations" needed to improve adaptation strategies for each neighborhood

Wilbur

Respondents had two adaptation options to evaluate in this neighborhood. The first suggested relocating Feeney's and the recycling facility, softening the shoreline and floodproofing structures. The second called for hardening and elevating the commercial areas and floodproofing structures.

Most agreed that floodproofing of home, structures and facilities in this area was warranted in the near term. Many respondents indicated that they would prefer to allow Feeney's to continue operating along the waterfront in the long term because it is water dependent business. Some respondents considered relocating the recycling facility because it didn't require a shoreline location. Task force members indicated a preference for preserving cultural sites like the Fitch House, if possible and were divided over whether to maintain road access along the Rondout. The road will be significantly impacted by 66"inches of sea level rise affecting access and public safety for structures along the shoreline.

Examples of responses:

"The scrap yard is not water dependent and should be relocated. Feeney's is an important business and should be protected. It can't be relocated. Other structures in Wilbur may be able to be floodproofed."

"…limited flood proofing should be considered for the Fitch Bluestone Bldg. which as a cultural asset provides a sense of community and place."

"Cost benefit analysis needs to be done for fortifying water dependent uses. If the cost of fortifying is unreasonable, the water dependent uses will have to relocated."

"the current industrial water dependent use can defend itself and easily accommodate 66" of sea level rise...let them do it and allow for riparian deeded ownership in areas that they can't defend."

"If you allow this road to flood, you will need to make sure that there are alternative ways for people whose homes are located on the opposite of the road to be able to drive out."

West Abeel

The strategy proposed for this neighborhood was to elevate the shoreline and create a wharf system to support water dependent businesses like marinas. The strategy proposed softening the shoreline and floodproofing structures.

Respondents supported floodproofing of structures in the near term. Most respondents were supportive of the concept of wharves along the shoreline to allow existing marina facilities to continue to function to maintain water access and economic benefits. Floating marina facilities were suggested as an option for floodproofing. Some respondents were uncomfortable with the berm concept. Concern was expressed about the high energy of floodwaters and ice scour in this area and over whether the marina

owners would eventually be squeezed out between the road and the rising water levels. This section of Abeel Street is not significantly impacted by 66" of sea level rise.

Examples of responses:

"Supporting the active waterfront and public park area is essential in the success of the Kingston waterfront."

"At an appropriate time in the future the road may have to be elevated to maintain continued land access not just to this section but to maintain continued access from Wilbur to West Strand area to provide a sense of connected community and place."

"If my vision of a wharf is the same as the committee's, I think this is a good way to maintain and even increase public access and use."

"I would not support filling the landscape if it creates a land-side drainage problem (bowl). Shoreline locations that can be restored with native vegetation should be identified."

"Wharf or pier yes. Berm, no. The marina buildings can be relocated onto barges or elevated on pilings, the boats can be trucked to other yards for winter storage."

Sass/Block Park

Respondents generally supported the concept of allowing water dependent uses, such as marinas, to continue to operate at this location to support access to the river and the local economy. It was suggested that the location is well suited to this use because of the protective nature of Island Dock. There was disagreement over whether Block Park should be elevated for these uses or if it should be designed to flood safely, with support services and boat storage being elevated or moved to another location. There was stronger support for wharves as a long term solution to flood vulnerability than a berm, which could exacerbate flooding elsewhere. It was suggested that the channel behind Island Dock will need to be opened and dredged to allow flushing behind the island for this use. There was a suggestion to realign the shoreline of the waterfront over time based on flood vulnerability and to develop the park area into a natural attraction, such as a marsh botanical garden.

Examples of responses:

"the park land provides a good natural flood plain and should be utilized as such."

"Let the park flood and make some improvements to minimize current flow so that it can be developed as a marshland botanical garden or some similar attraction that is water dependent w/ passive use"

"The flood extent suggests excavation of the waterfront at Block Park into a concave shape and realignment of the proposed wharves. It might be possible to retain some upland use on the south side of Abeel Street in conjunction with the realigned waterfront."

"This is the best area to maintain marinas since it is protected by Island Dock from high velocity events and from ice damage. The Channel at the upper end of Island Dock should be cleared/opened however, so that there can be somewhat more flushing since the channel is prone to silting"

Island Dock

Most respondents felt Island Dock would be a valuable site for public access to the water in the near term, however, there was significant disagreement over the best long term strategy for the site. Some

felt it would be best as a public park and others envisioned small scale development on the site. Some respondents felt strongly that the site should be allowed to flood because the costs of large scale fortification were not justified and the site could offer valuable natural habitat as wetlands and submerged vegetation as it becomes submerged. Others felt that a portion of the site should be elevated and developed with floodproofed or floating buildings. It was noted that the site would need to be fortified if it was used as protection for water dependent uses in the Block Park neighborhood over the long term. It was also noted that there is a brownfield on the site that and these contaminants should be addressed regardless of the strategy.

Examples of responses:

"I would focus on a better permanent use of Island Dock… floating neighborhood? ....possibly combined with a marina...even cut and fill ratio for a dredging pattern to elevate half of the island and create small harbors in the removal areas"

"Let it flood."

"Resolve issues of contaminated site / brownfield site at Island Dock and then transition to submerged aquatic vegetation beds and tidal wetlands."

"The owner has a plan that would raise the elevation of a portion of Island Dock and potentially have some buildings (flood proofed) on it"

The Strand

Respondents had two adaptation options to evaluate in this neighborhood. Both strategies called for relocating the wastewater treatment plant (WWTP). The first strategy depicted elevating the Strand and the area upslope from it, hardening the shoreline and working with private landowners to floodproof, elevate or relocate buildings on the south side of Strand Street. The second, proposed by Task Force member Allan Shope, moved Strand Street inland along the border with Hasbrouck Park (behind the WWTP) and created a non-linear shoreline with inlets or harbors perpendicular to the existing waterfront where no parking lots or buildings currently exist. The dredge spoils from the creation of the inlets were then used to elevate the land in between the inlets including historic structures.

Most agreed that the relocation of the WWTP was desirable in the long term. In the near term, there was general agreement that floodproofing of existing and proposed structures to make them resilient to events were desirable. Several respondents were interested in further study of the proposal of a non-linear shoreline with inlets. Elevation of the trolley line and a pedestrian walkway to allow access along the shoreline east to the lighthouse was also suggested. Nearly all felt this area was critical to protect and develop over the long term because of its economic benefit and development potential along the waterfront.

Examples of responses:

"move the Strand back to the new high water level line which is to say inland...you best asset here is the fact that there are very few buildings....create harbors by dredging in the areas around the current parking lots....raise parts of the current pedestrian walkway with pedestrian bridges to allow small boats into the inland harbors....encourage floating neighborhoods..."

"This is THE area of the Kingston waterfront, that due to its current development and economic value, is the most critical area to protect."

"The sewage plant should be relocated, and new building should be curtailed on the waterfront, but moving historic buildings would change the character of the neighborhood."

"Floodproofing and elevation strategy is needed here to protect the economic viability of the West Strand area."

Ponckhockie

The proposed strategy for this region is to elevate Strand Street, floodproof existing structures, require that new or rebuilt structures be built above future flood zones, adapt or relocate the police facility and make the area on the south side of Strand road a public greenway.

Many respondents indicated they preferred to continue to support water dependent uses in this stretch of shoreline. They suggested the use of wharves or piers to support these uses. Several respondents were concerned about the stormwater impacts of elevating the roadway and several strategies were proposed for addressing it. There was concern that new development not be located on the south side of Strand Street because it will block public access. One respondent suggested that the waterfront berthing facilities could be increased and improved to make Kingston a more desirable location for larger commercial vessels. Some respondents suggested that the strategy implemented in this area be consistent with the strategy used for the Strand to the east.

Examples of responses:

"As other waterfronts lose their docking facilities, Kingston should maintain and improve Rondout Creek berthing, and thus continue to function as the best (and eventually only) docking location north of NYC for large commercial vessels."

"I am not against new development but I think that housing should be done of the mainland side of the East Strand so that everyone can enjoy the riverfront, residents, weekenders and day trippers. Docks, boat launches and fishing wharfs are far more appropriate for this area."

"New structures clearly need to be built above flood zones or be built as floating structures. Wharves could be utilized for water dependent uses."

"Relocating the road and trolley so they are elevated but do not trap water is a more reliable solution over the long term."

Lighthouse

The strategy for this neighborhood consisted of elevating Strand Street and having the waterside area southeast of Strand Street as a public greenway. It calls for relocating the gas and recycling facility, remediating brownfields, and elevating and considering routing the trolley tracks along the elevated Strand.

Respondents generally agreed with this proposal. They suggested that the cost of fortifying this area would not be worth the investment and that a better use is as a natural floodplain. They agreed with evaluating the route of the trolley tracks over the long term. It was suggested that a raised pedestrian walkway continue to allow access to the lighthouse and the lighthouse be fortified as well.

Examples of responses:

"I think that there are far fewer practical choices for this area. It is very vulnerable to the wrath of the Hudson in a storm situation. This approach and strategy allows for reasonable human use for many

recreational pursuits...but recognizes the danger of the area and therefore the diminished economic potential of the area."

"The recycling plant has already relocated. Now there needs to be an effort to clean up this brownfield site. The area also has a lot of wetlands. Relocating the trolley to the East Strand/North Street makes sense."

"Fortifying the lighthouse base may be necessary. Existing jetty to the lighthouse could elevated to provide pedestrian access."

North Street

The proposed strategy for this neighborhood is to elevate North Street, floodproof existing structures or remove them if damaged, have any new construction be flood resilient, soften the shoreline and consider alternate trolley routes along North Street to potentially provide access to future development.

Most respondents agreed to the proposed strategy. They felt elevating North Street, encouraging relocation of structures and improving building standards to promote flood resiliency made sense along this stretch of shoreline, however there was concern that a buyout program would never have 100% participation and could have other negative socio-economic impacts. Several respondents agreed this would be a good location for a greenway and protective shoreline wetlands.

Examples of responses:

"The North St property need to sold to the state & people relocated. Accommodation infeasible."

"I like the concept of a Greenway along at least part of the Rondout and this is the right place for it."

"Elevation of the road should be done. Any new construction should take place on West side of North Street. The east side of the road is most wet lands and there are the trolley track that exist there are covered with vegetation should be moved to street level. This area east of North Street should be designated as wetland with no building allowed."

Kingston Point

The proposed strategy for this area was to relocate the oil terminal, allow the land to submerge, develop a new park plan that would ensure public access as it is affected by rising water levels. The relocation of the access road in the long term and a potential active waterfront on the far east end were also proposed.

Respondents generally agreed with this approach. They felt that the site could potentially be a draw for tourists and serve as a viable recreational opportunity even with some loss of land area. Most agreed that it would be desirable to relocate the oil facility, however, one respondent expressed concern that there may not be a suitable site for relocation. Raising North Street and considering alternative routes for the trolley to serve areas north of Kingston Point was also mentioned.

Examples of responses:

"I like this strategy...it accepts the altered use of an existing park and makes the best of it. The park remains a major access point for all to get to the river and isn't abandoned."

"… this is good area for natural floodplain use. The recreational uses can co-exist in this environment; other uses need to be relocated."

"There is no logical cost effective alternative site to relocate to the storage facility"

Sailors Cove

The strategy for this section of the shoreline called for ensuring that new development and building standards are resilient to future sea level rise and flooding, floodproof existing structures, and maintain a softened shoreline.

Respondents generally agreed with the approach in this neighborhood. They felt that North Street should be elevated, development should be outside of floodprone areas and that the proposed walkway associated with Sailor's Cove should be flood resilient. Many suggested that this stretch of shoreline would be a good area to allow softened shorelines and natural habitat like wetlands and aquatic habitat and fish spawning grounds to flourish along the shoreline.

Examples of Responses:

"I think that we should explore more related to soft shoreline techniques and migratory wetlands here, as this area is rich with sub-aquatic vegetation."

"Since construction has not yet begun, now is the time to get cooperation/compliance with the developers for a feasible, long term, and safe design for housing that complements the work proposed for other areas."

"Any new construction should be moved back from the river and out of the flood plain. It is important not to build at the edge of the river and allow the wetlands and marshes to do their jobs. I believe that the walkway is expected to run through the area. Here again, it needs to be built back from the river's edge. The former brick yard should be demolished and made into a structure for parkland use."

AVR

The strategy for this section of the shoreline called for ensuring that new development and building standards are resilient to future sea level rise and flooding, floodproof existing structures, and maintain a softened shoreline.

Respondents generally agreed with the approach in this neighborhood. Comments were similar to those for Sailor's Cove. They felt that development should only be outside of flood prone areas and that the proposed walkway should be flood resilient. It was suggested that this stretch of shoreline would be a good area to allow softened shorelines and natural habitat like wetlands and aquatic habitat and fish spawning grounds to flourish along the shoreline.

Examples of Responses:

"…the proposed buildings for this development should ALL be built to accommodate storm surges, after the 66" SLR...including infrastructure such as roads. Let's make this real...."

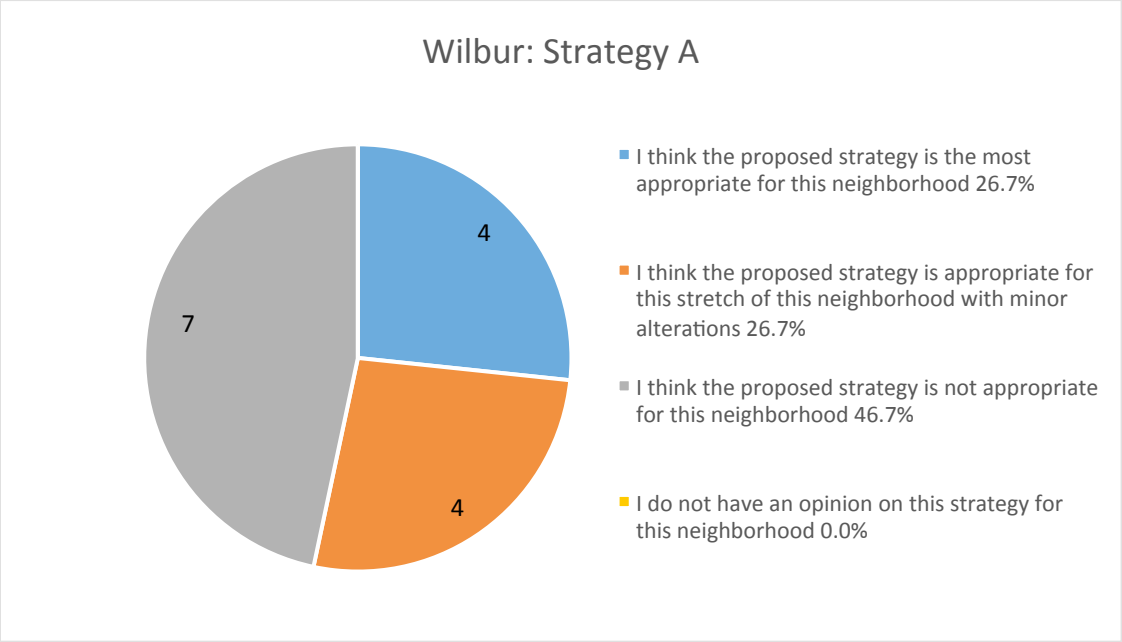
"Once again all new construction should be built on land that is above the flood plain and that includes the walkway"

"The suggestion to maintain the soft shoreline needs to be more fully detailed. How will it be graded, will it have an impact on the currently proposed Promenade? Most of the Hudson Landing development will occur at a safe elevation, and flood-proofing structures that are found near the flood area makes sense."

Appendix: Complete survey results

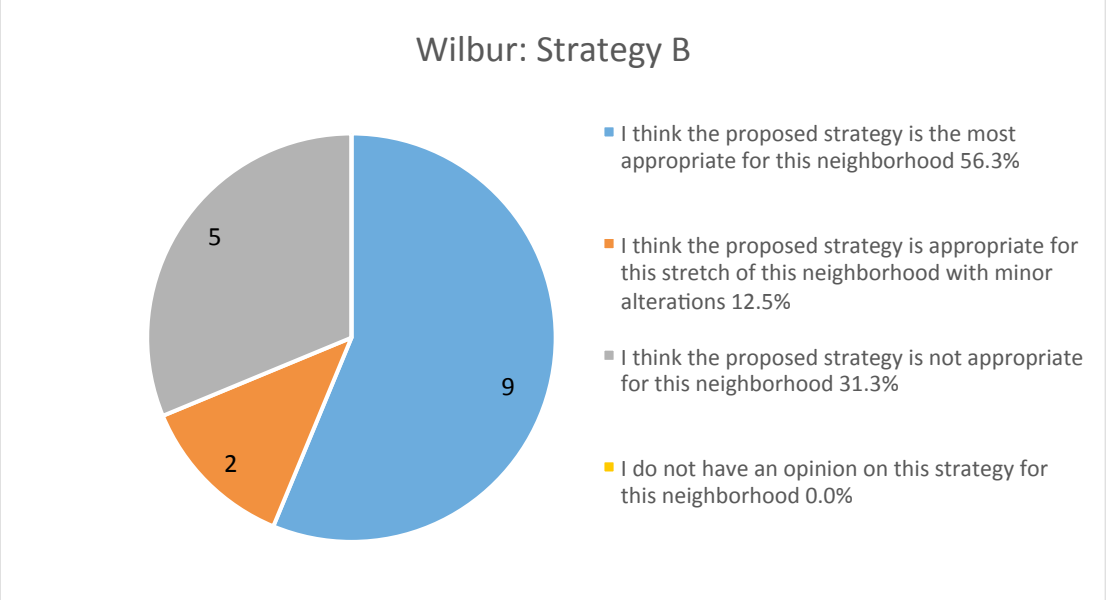
For details on each strategy, please refer to Potential Adaptation Strategies for Kingston's Waterfront.
All responses have been left un-edited to ensure that the intents of the authors have not been modified.

1. Adaptation Neighborhood: Wilbur (2 Strategies)



For the answer you gave above please, explain your reasoning and thoughts:
Feeney's could relocate their storage sheds and heavy equipment to the industrial lot on the north side of the road, and consolidate the shoreside equipment to the west end of the current lot where there could be raised pads for the cranes, etc. Relocating to a site east of their current location might appeal to them as it would mean easier access for larger vessels. The road couldn't easily be moved in-shore due to geography - a pontoon road might work for the eastern side, with design accomodations so water access for the shipyard is not blocked. Maybe route the land portion of the new road around the north side of a new Feeney site by connecting Burnett St. to Hamilton St. But this doesn't solve the problem for the hamlet of Wilbur and the Fitch House. Could the houses be elevated and road access rerouted to what is now the rear of the properties? Fitch House could be protected by elevation of the site w/ a bridge to the main through road.
Feeney's is entirely shoreline dependent.
I believe that Feeney's is on higher ground than the recycling plant. Feeney's yard could conceivably function properly for several years to come with some wet floodproofing of the facilities. While the recycling plant could be relocated to several other locations, Feeney's is unique to Kingston, requires the deep water docking facilities, and employs a number of people. I would recommend a phased approach to Feeney's relocation. The roadway is a significant access point from downtown Kingston. Some consideration is still needed for maintaining the roadway, possibly by elevating it, and the potential damage to the houses in this Wilbur neighborhood.
I don't think relocating a business like Feeney's is feasible. Some of the other uses (especially residential) could sucessfuly implement this strategy.
I think the relocation of Feeney's is important so that Kingston does not lose this waterfront business. If you

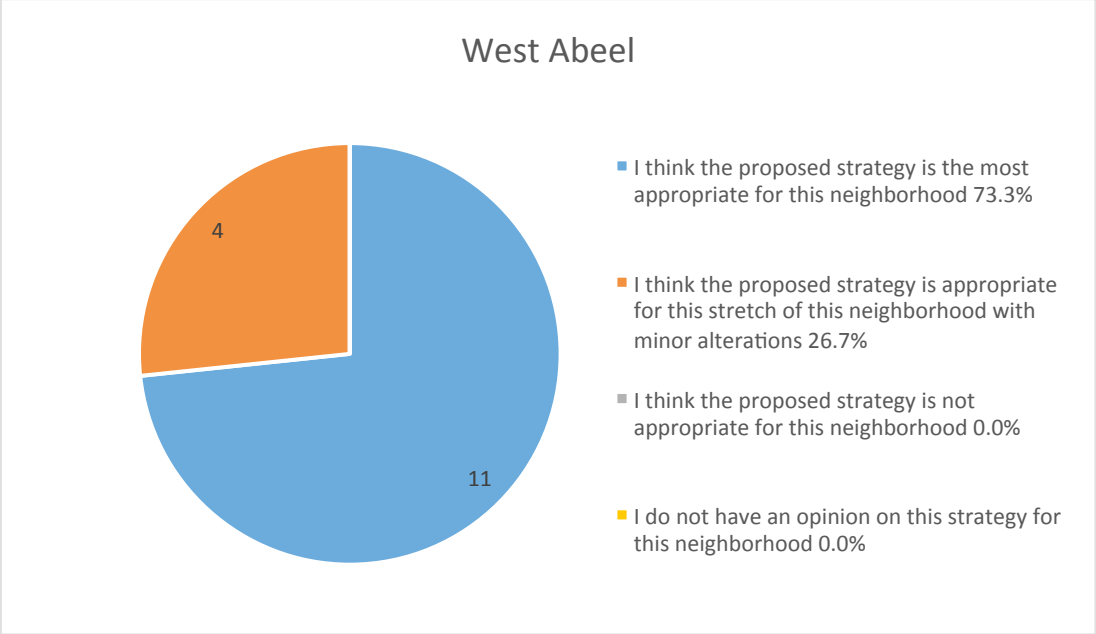
allow this road to flood, you will need to make sure that there are alternative ways for people whose homes are located on the opposite of the road to be able to drive out.
I would focus on Strategy B below.
No mention of where Feeney's and Kingston recycling would be relocated. Across road or to another site? Need to provide water dependent use of shipyard and shipment of scrap metal. Does not solve problem of road inundation. Not clear if residential and commercial structures would be accomodated or other structures. Accomodation of residential and commercial structures may work for 20 or more years, until repetitive loss requires relocation or inundation.
public health, flooding of the shipyard,polluting the creek
The scrap yard is not water dependent and should be relocated. Feeney's is an important business and should be protected. It can't be relocated. Other structures in Wilbur may be able to be floodproofed.
There are viable relocation/adaptation options. The strategy is low-technology, and therefore less likely to fail. The highest water level increases are well in the future, so local adaptations can successfully maintain uses for now. Some elevation of the road is possible to help secure access/reduce flood effects. Short term closure of the road (one day) may be tolerable.
This would be an appropriate approach if the cost benefit analysis of maintaining the water dependent uses at this site proves to be unreasonably expensive. It is not clear that the area would need flood proofing if the water dependent uses are relocated however limited flood proofing should be considered for the Fitch Bluestone Bldg. which as a cuyltural asset provides a sense of community and place. At an appropriate time in the future contingent upon SLR, a strategy as proposed by Allan Shope creating inlets and islands/peninsulas could be considered.



For the answer you gave above please, explain your reasoning and thoughts:
Although in some ways this seems like the strategy that would most appeal to the landowners, I can see problems occuring when other landowners along the creek want the same protection for areas where alternate strategies are recommended. The discussion about the relative value of the assets would get really ugly, and ultimately be driven by politics, not by sound planning.
Cost benefit analysis needs to be done for fortifying water dependent uses. If the cost of fortifying is unreasonable, the water dependent uses will have to relocated. In such an event consideration should be given to fortifying the Fitch Bluestone Bldg which is a cultural resource. At an appropriate time in the future contingent upon SLR, a strategy as proposed by Allan Shope creating inlets and islands/peninsulas could be

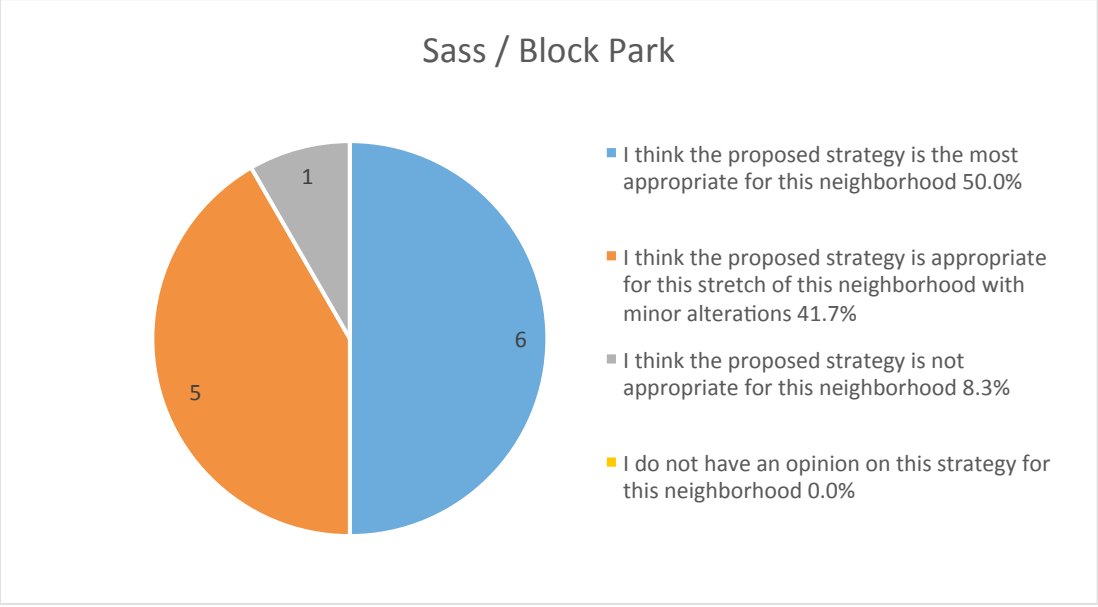
considered.
Historically this area has been used for marine related industry. It would be beneficial to the local economy to maintain that use.
In general, I do do not support shoreline elevation projects as they have an adverse impact elsewhere.
It only makes sense. not to re build & clean up after each flooding.
Not clear how elevation will protect areas to west and east.
Personally, I think that the scrap yard could be located elsewhere, but because Feeney's Shipyard repairs boat, I think that everything should be done to relocate them on the waterfront, perhaps in Connelly or perhaps the Block Park area.
See comments in item 5.
the current industrial water dependent use can defend itself and easily accommodate 66" of sea level rise...let them do it and allow for riparian deeded ownership in areas that they can't defend.
The proposed structural protective measures are not fail-safe and some loss of function can be expected with significant storm events even if they are implemented. I agree that flood proofing and other adaptations to preserve preferred functions are feasible and desirable. The net difference in loss of service over time between the non-structural approach and the structural approach is not sufficient enough to justify armoring the shoreline and filling the landscape, which will create a vertical wall and contribute to water quality problems.
This applies to Feeney's primarily. This is a business that is active and growing. There are few locations for shipyards along the Hudson River and this makes the Rondout well positioned to provide these services.

2. Adaptation Neighborhood: West Abeel (1 Strategy)



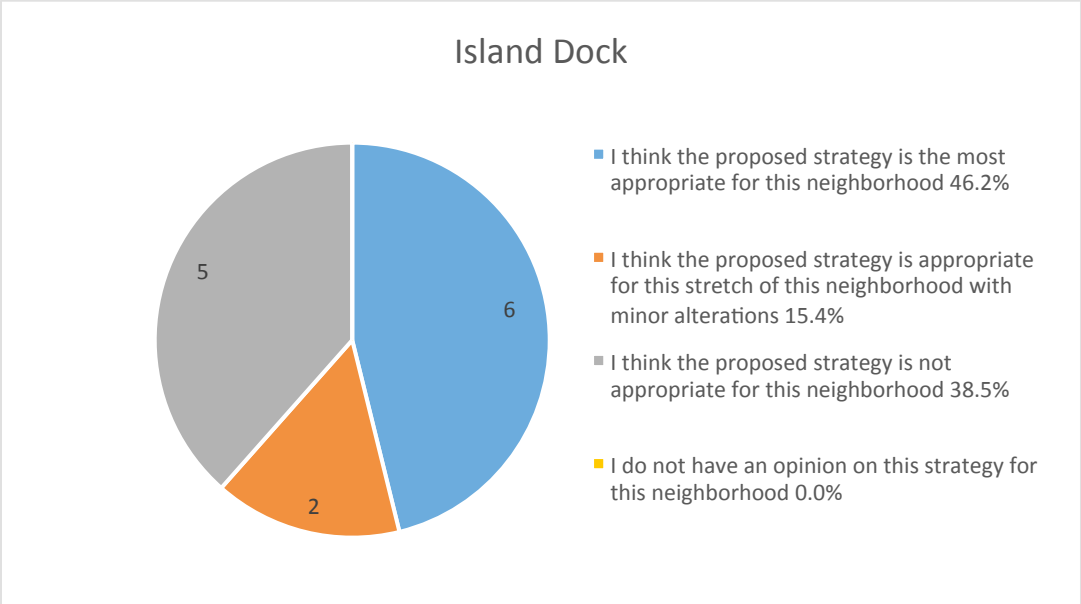
For the answer you gave above please, explain your reasoning and thoughts:
At an appropriate time in the future the road may have to be elevated to maintain continued land access not just to this section but to maintain continued access from Wilbur to West Strand area to provide a sense of connected community and place. A wharf may be more appropriate than a berm.
I think that this strategy is good because it provides better access to the creek than is now available.
If my vision of a wharf is the same as the committee's, I think this is a good way to maintain and even increase public access and use.
Maintains the the historic use of the propoerty and marine industry w/out a large financial impact. The road access can not be mitigated w/out incurring a large expense
Relocation of the Abeel Street corridor to the next street inland should be examined to determine whether it is necessary to avoid repeat flood damages and road closure. With that adaptation the nearshore could be excavated/regraded to establish frontage that supports the water dependent uses. I would not support filling the landscape if it creates a land-side drainage problem (bowl). Shoreline locations that can be restored with native vegetation should be identified. These may be intermediate between other uses.
Roadway seems to be high enoughy to be protected.
Supporting the active waterfront and public park area is essential in the success of the Kingston waterfront.
The road is relatively elevated along this stretch, so access may not be affected here for some time. It slopes downward toward the east at Hudson Street. Ulster Marine has the least amount of elevated property, sloping immediately down from the roadway, so it will eventually depend on the property to the east for any amenities.
These areas are exposed to high velocity flooding during extreme rain events. Scouring is a threat. They are also exposed to damage by ice , especially in storm events in the late winter that in some years take the ice out in one event. For this reason, although maintaining water access is appealing, it may not turn out to be cost effective over the long run. At best, over time, the linear frontage that is usable for these marinas will be reduced, especially as they are squeezed by sea level rise and the existing Route 213.
Wharf or pier yes. Berm, no. The marina buildings can be relocated onto barges or elevated on pilings, the boats can be trucked to other yards for winter storage.
will still maintain the water front.

3. Adaptation Neighborhood: Sass/Block Park (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
A phased approach may be needed for the big picture concerns such as the future of marinas and how or whether to accomodate or to consider relocation. While wharfs may be a practical approach for the marinas addressing economic issues and could be modified for increased SLR, with increased SLR berms may be overtopped and Island Dock and the parks may be underwater and lost at this location.
Elevate or relocate Abeel Street. Use of Block Park for water dependent use is an interesting idea.
Excellent idea, but in elevating Block Park, how will that effect the houses on the other side of Abeel Street. Many of them are nearly as low as the park. If it can be done successfully then perhaps it will be a solution that works for everyone.
I think the park land provides a good natural flood plain and should be utilized as such.
Let the park flood and make some improvements to minimize current flow so that it can be developed as a marshland botanical garden or some similar attraction that is water dependent w/ passive use. Add elements so that the use and appearance of the recreational area differs at high and low tide. Boat storage can be accommodated by the multi-level stacked storage sheds for power boats, and sail boats trucked to nearby dry sites for the winter. Road to be elevated, or access rerouted to existing streets up the hill.
The flood extent suggests excavation of the waterfront at Block Park into a concave shape and realignment of the proposed wharves. It might be possible to retain some upland use on the south side of Abeel Street in conjunction with the realigned waterfront. It may be possible to raise Abeel Street in this vicinity to reduce flood impacts while avoiding water entrapment on the north side because the landscape is sloping upward.
there is a limited group of options
This is the best area to maintain marinas since it is protected by Island Dock from high velocity events and from ice damage. The Channel at the upper end of Island Dock should be cleared/opened however, so that there can be somewhat more flushing since the channel is prone to silting. Shoreside support services are important components for a viable marina. This area is adjacent to the business cluster along the Strand and at the foot of Broadway.
We should consider that Abeel Street will eventually be cut off at the northernmost section of the curve. The three or so houses on the north side of the street there will also be flooded. Is it worth considering elevating the roadway in those brief stretches to allow this major access route to remain viable? The roads behind Abeel are very hilly, narrow and indirect, and don't provide an amenable alternative truck route, for instance.

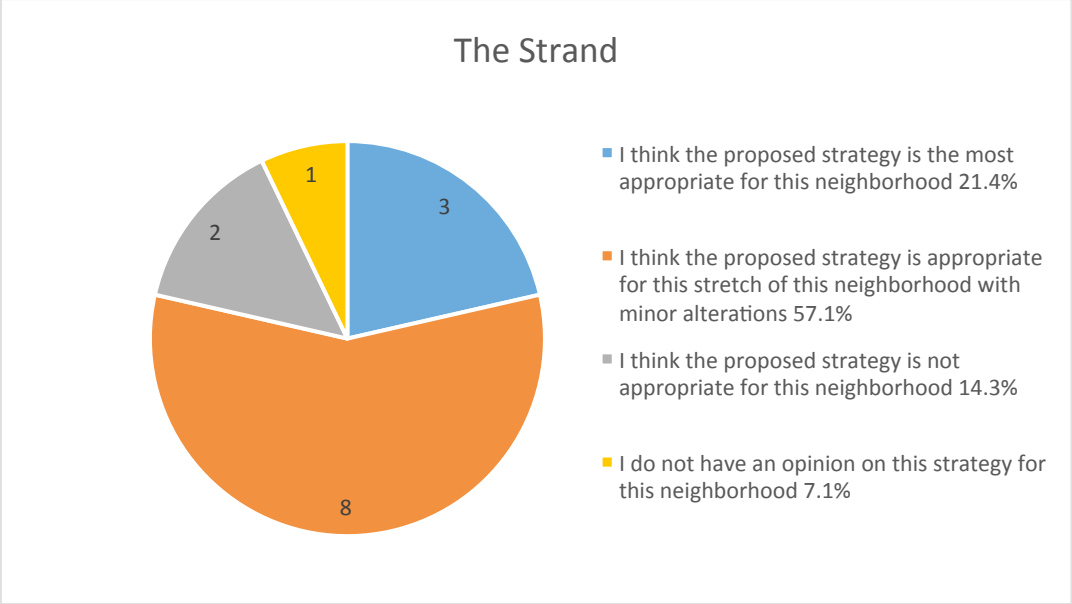
4. Adaptation Neighborhood: Island Dock (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
At minimum, this should be further studied since it is a remarkable opportunity for providing public access to the Rondout Creek and could be converted to a park. Island Dock is important for protecting the Dock Street area and Hideaway Marina from high velocity flood waters and ice damage. There may be other innovative options for this location that we have yet to come up with. Dockage may be practical on the northern edge of the Island as well.
I would focus on a better permanent use of Island Dock..and try to plan for the 66" of sea level rise...floating neighbor hood? ....pssibly combined with a marina...even cut and fill ratio for a dredging pattern to elevate half of the island and create small harbors in the removal areas
Island Dock would make a great public park. The design of it will need to consider that it will flood every now so whatever buildings, benches, etc. will need to withstand this. It should be noted that this land will disappear under the water one day..
Kingston has a number of parks. Ball fields can be accommodated. We should look at open space planning again taking these waterfront issues into account to consider the loss of parkland and get community feedback on needs.
Let it flood.
Resolve issues of contaminated site / brownfield site at Island Dock and then transition to submerged aquatic vegetation beds and tidal wetlands.
Some areas will be a casualty of rising water levels - Island Dock is one of them not worth the extensive cost required to protect it.
The Island Dock property may be able to be used for water dependent uses; this can be changed if the inundation levels are realized. The owner has a plan that would raise the elevation of a portion of Island Dock and potentially have some buildings (flood proofed) on it- and anticipated raising the level a few feet. This approach would likely not be feasible for the entire area of the property due to cost and engineering considerations. It may be feasible near the bridge to the property and tie in with potential development on the land side of that access.
The island dock site is too large and undeveloped to justify modification of the land form itself (by fill or armoring). Some excavation of the boat channel and structural management of the waterside will be necessary to maintain navigation access.

The timeframe of inundation appears similar for both Block Park and island Dock making shifting the park to Island Dock impractical unless fortification is considered. Relocation of ballfields may be necessary to higher ground.
Why move block park twice. a more permanent location needs to be found.

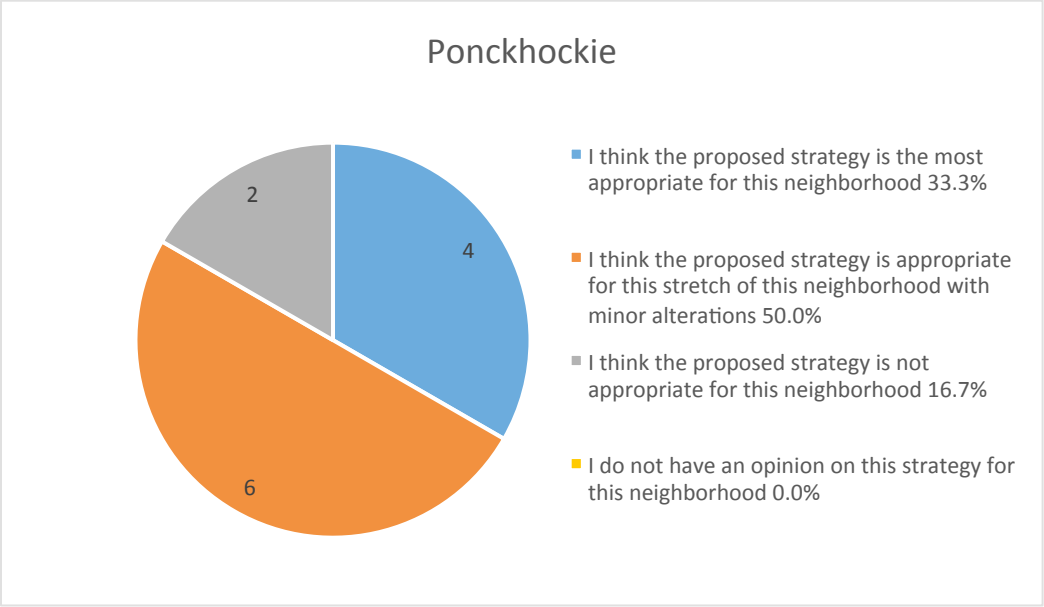
5. Adaptation Neighborhood: The Strand (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
Changing the Strand will eliminate what it represents, which is the historical waterfront. The sewage plant should be relocated, and new building should be curtailed on the waterfront, but moving historic buildings would change the character of the neighborhood. Help the existing buildings to become flood resistant and easily recoverable. The marina can be rebuilt to be flood resistant, and the museum can also be retrofitted.
Flood proof buildings for a few decades and then relocate. Begin plans to relocate sewage treatment plant. Elevation of hardened shoreline for a few decades.
Floodproofing and elevation strategy is needed here to protect the economic viability of the West Strand area. Again a phased approach may be required. A creative accomodation approach as proposed by Allan Shope could be considered for a later phase for thesection east of 9W which would provide for inlets, bridges, fortifiedislands/peninsulas allowing rising water to take its course but providing protection for historic structures and cultural assets while areas west of 9W would remain fortified to preserve the sense of community and place . At this later phase increased SLR may be contemporaneous with the end of useful life of the WWTP. At that point, relocation of the WWTP should be considered together with a creative limited fortification approach for the easterly portion of this section. New bldgs will need to be built to accomodate SLR and flooding regardless of phase. The road may need to become elevated at that late stage with bridges to accomodate water dependent uses and passage of small craft and water flow.
I don't see here the discussion we had about creating an alternate roadway. Although it was stated that a

future roadway about the flood level would not be located in Hasbrouck Park area or the slope that once had active mines and numerous tunnels in the side of the hill here, I lived on this property and know that there are many voids that could make a new waterfront roadway on East Union Street unstable. The steep slope and future flood levels to the south of East Union would make the location of a roadway on East Union most appropriate, but the geology must be studied first.
I like Allan's idea of a non-linear shoreline, with elevated piers that allow water to surround the Steel House and Cornell Bldg but still permits access, and wharves that are extensions of existing N-S streets in Ponckhockie. I would like to learn about this approach in more detail since I can't see how it would work to protect The Strand (street) - this site needs much more discussion.
I see this area becoming a "water oriented" zone....walkway along the Rondout Creek in the approx location that it is now, but at a higher elevation to accommodate the 66" rise in water level....I see the walkway having several bridges allowing smaller boats to move easily under them into protected harbors that will be defined with buildings and roads....the harbors will exist on inundated land areas currently used for parking....surrounded by buildings that either float or are built on piles at higher elevations....boats, buildings, people, commerce...together....move the strand to the natural new edge of the water protected by a hard edge several feet high with vehicular access out onto spurs between the harbors. Re write local zoning to create uses and tax values that are in harmony for deeded water rights.
I think that this strategy would be very effective, however, if elevating this part of the waterfront threatens worse flooding for other areas, Ponckhockie or Sleightsburgh across the way, then I think that you need to elevate other areas as well. The only building in that area that I think is worthy of great historic value in the Rondout business area is the Cornell Building and that is in private hands.
I think the discussion should include raising the bulkhead along the Promenade. A floating walkway attached to the side of that bulkhead could allow for pedestrian access to the water and would raise and lower with tides and storm events.
It appears that the existing waterfront uses will not remain viable over the course of time due to frequent or permanent inundation. A new shoreline location should be chosen upland of the present location and the waterfront should be excavated to reestablish the water frontage. The upland can be filled to some extent and the road relocated a little northward, at higher elevation, to secure function for the 50 to 150 year time frame. The waste water treatment plan will have to be moved to accommodate these adaptations. This solution is low tech, relies on the land form for flood protection and preserves navigation access. A number of the existing waterfront uses will have to be relocated or abandoned.
move the Strand back to the new high water level line which is to say inland...you best asset here is the fact that there are very few buildings....create harbors by dredging in the areas around the current parking lots....raise parts of the current pedestrian walkway with pedestrian bridges to allow small boats into the inland harbors....encourage floating neighborhoods...
This is an area where many functions and uses converge. There are the two bridges, Hudson River Water Trail, Kingston Point Rail Trail, Trolley trackage to Kingston Point, Lower Broadway, Hudson River School Art Trail (Hasbrouck Park location). The area is on the national Register, it is in the Heritage Area, is part of the Waterfront Revitalization Program, etc. the identity of the Rondout is focused here. A long term capital plan for the WWTP needs to be developed and any potential funding for hazard mitigation should be pursued.
This is THE area of the Kingston waterfront, that due to its current development and economic value, is the most critical area to protect.

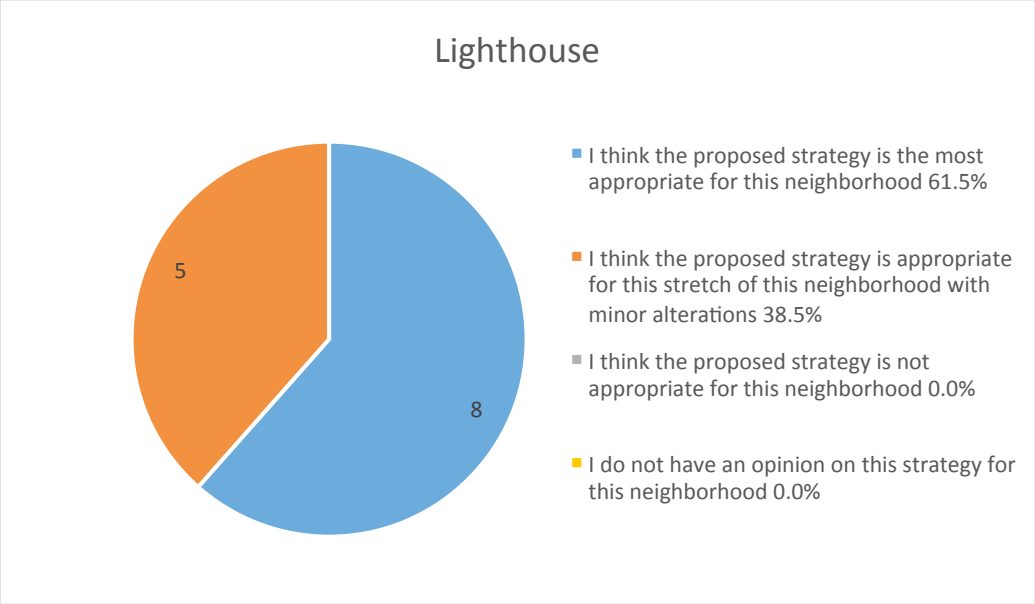
6. Adaptation Neighborhood: Ponckhockie (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
Also, it should be noted that 99 which is the building that Andrew Lyght has renovated is located in the wrong place. It is right across from the Riverview Baptist Church 8 on Catherine Street. I would not encourage a wall of high-end housing units on the waterfront across from the low lying area of Ponckhockie that was presented at the last meeting. This type of housing is a slap in face for the existing neighborhood. It cuts access to the waterfront for people living in this neighborhood. I am not against new development but I think that housing should be done of the mainland side of the East Strand so that everyone can enjoy the riverfront, residents, weekenders and daytrippers. Docks, boat launches and fishing wharfs are far more appropriate for this area.
I do not like the "cons" on this one.....they will never go away....rethink this area...dredging to create appropriate elevations and water dependent uses...zone for riparian deeded rights...the water dependent uses are to important to sacrifice them
I do not think that we are respecting or "listening" to the water. The proposed strategy is defensive which is unfortunate. Nature is going to do what she is going to do....we have made a bet as a task force that the second map that you have shown above is going to be truthful....look at it ....listen to it...it does not suggest the proposed strategy. Accept it and move forward....it suggests a strategy similar to the previous area near the maritime Museum....move the Strand inland to the new edge of the water after the predicted rise in sea level....find appropriate water related uses for the inundated areas....floating houses, marina, floating restaurants...floating drive-in theater(visited one of the in China, amazing! pop corn delivered by nuematic tubes and great special effects with sea monsters rising up around all of the boats holographs...not a requirement, just don't limit your imagination) It is fine to manage the water...but don't try to deny it...the photo of 66"inundation is the probable truth.
I think we should consider how we can maintain water dependent uses here through the use of wharves similar to those proposed to the east. Also, please note: the houses that are threatened on Catherine Street are directly across from Riverview Chapels, including Andrew Lyght's brick barn at 241 Catherine, so I'm not certain what "99 Catherine" is. In addition, there are several other vulnerable properties on E. Strand, Sycamore and Gill Street that should also be noted assets, even if a berm is eventually built.
Planning is underway to look at stormwater management in this area that may have near term implications for reducing the impact of flooding.

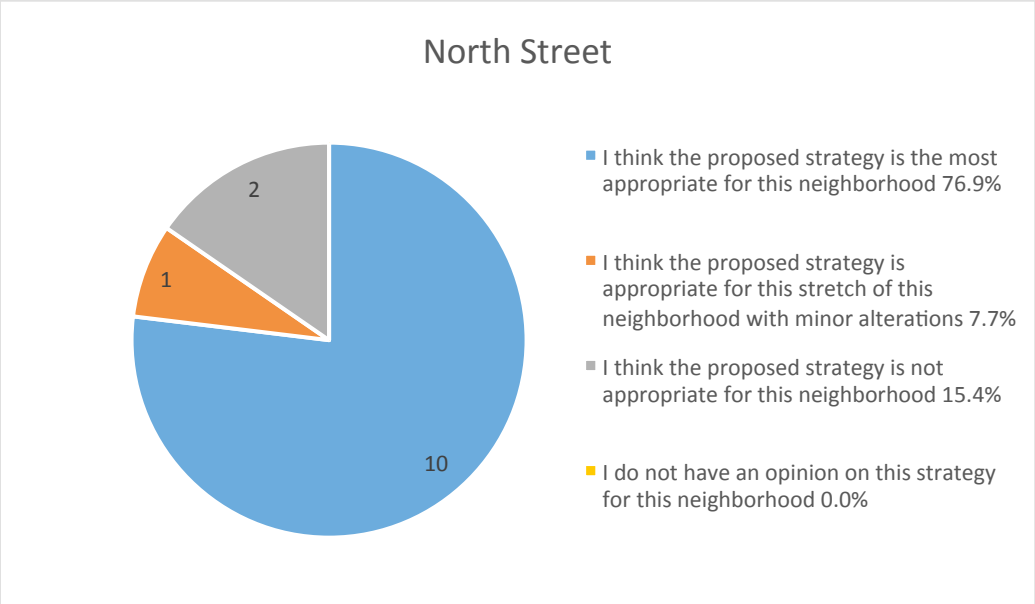
The raising of bulkhead as discussed at the last meeting should be considered as part of the solution.
The road can be elevated but it should be moved north a little to eliminate trapping of water. Trapped water increases flood damage potential and technological solutions like pumping are not reliable. A location a little below Catherine may be viable, or Catherine could become the east-west access route. Cross sections are needed to compare flood elevations with the landscape and select a viable alignment. Relocating the road and trolley so they are elevated but do not trap water is a more reliable solution over the long term. In the near term elevating as much as possible, a gradual relocation program, combined with fill to create the new road/trolley alignment should be pursued for adaptation. Whichever strategy is chosen it must be integrated with the strategies employed to the east and west of this segment.
The road elevation may need to be a bridge type structure as mentioned under Item 14 but modified here for a near term with a limited area flood barrier beneath. Contingent upon a review of elevations and gravity, this may prevent inundation during surges and if the barrier were opened in whole or in part could allow the water trapped in the low lying area to drain. Structures if they are to remain may have to be floodproofed to the extent possible. At a later phase a creative approach should be considered with present structures replaced by floating structures. New structures clearly need to be built above flood zones or be built as floating structures. Wharves could be utilized for water dependent uses. Using former quarries under Hasbouck Park was discussed for storing stormwater and/or flood water. This approach may be flawed insofar as the low point tunnel entrance to these former quarries is located just north of East Union St. between Sycamore and Gill and is owned by Kingston Land Trust. The tunnel may have structural issues and if water were to escape from the caves via this tunnel , serious backflow flooding could occur to this area of Ponckhockie.
The strategy should involve construction of fixed dock to retain water-dependent use. As other waterfronts lose their docking facilities, Kingston should maintain and improve Rondout Creek berthing, and thus continue to function as the best (and eventually only) docking location north of NYC for large commercial vessels. Also need to consider relocation or elevation of trolley tracks to retain linkage between Rondout and AVR development. Strategies for upland water load? Could it be rerouted to flow to several smaller constructed wetland-type pocket parks? And/or cisterns that could be used for local non-potable water uses like watering plants at city parks?
Whatever straegy is used in the previous zone, must be continued in this contiguous area.

7. Adaptation Neighborhood: Lighthouse (1 Strategy)



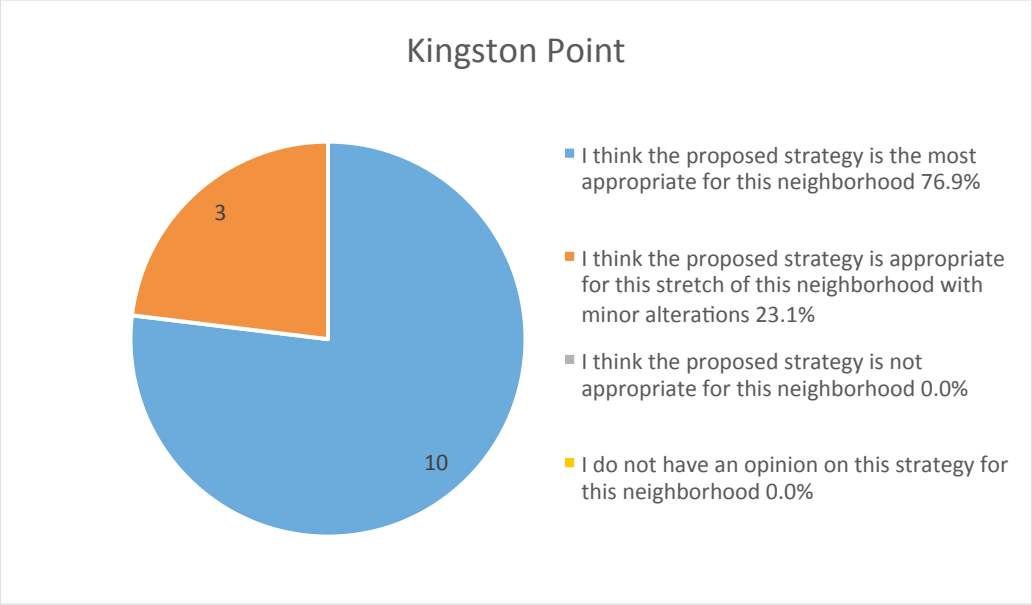
For the answer you gave above please, explain your reasoning and thoughts:
Design of new Day Line Dock (to be located at the north end of the jetty) should take into consideration the potential short term utility of 50 years, and the necessity that the dock be relocated then to the Heritage Oil site once it has been redesigned as public space. This dock will maintain public access and water dependent uses at both locations.
Do not elevate trolley tracks to Kingston Point, unless it is shown that elevation will help with maintaining tidal wetlands.
I think that there are far fewer practical choices for this area. It is very vulnerable to the wrath of the Hudson in a storm situation. This approach and strategy allows for reasonable human use for many recreational pursuits...but recognizes the danger of the area and therefore the diminished economic potential of the area.
Not enough economic return can be generated from this area to support the radical protective and landscape measures that would be necessary to preserve existing uses. Relocation of the trolley and extension northward into the proposed new development sites could create valuable development opportunities. Transit-oriented development may be an option for this compact system. Much more investigation of the gas interchange site is needed to determine how this valuable infrastructure will be adapted.
The ball fields and other open spaces make a good natural fllor plain. The future housing development off North should be built in harmony with the overall plan for the area.
The recycling plant has already relocated. Now there needs to be an effort to clean up this brownfield site. The area also has a lot of wetlands. Relocating the trolley to the East Strand/North Street makes sense. There is a spur of tracks on the west side of the lagoon that is currently covered with vegetation. This is in addition to the one that leads out to the end of the rotary park at Kingston Point. Elevating the East Strand/North Street will insure that there is more than one way into and out of the neighborhood at all times.
The tracks may be elevated for a time but that may not be a long term alternative. Running trackage out along North Street may be a better alternative over time since it will also provide for the Hudson Landing and other planned developments. A raised walkway to the lighthouse would a nice amenity.
The trolley may have to relocated to North St. and houses on North St. may have to be relocated at a later phase. Fortifying the lighthouse base may be necessary. Existing jetty to the lighthouse could elevated to provide pedestrian access.
this is the best situation for now. perhaps better ideas may develop in the future.

8. Adaptation Neighborhood: North Street (1 Strategy)



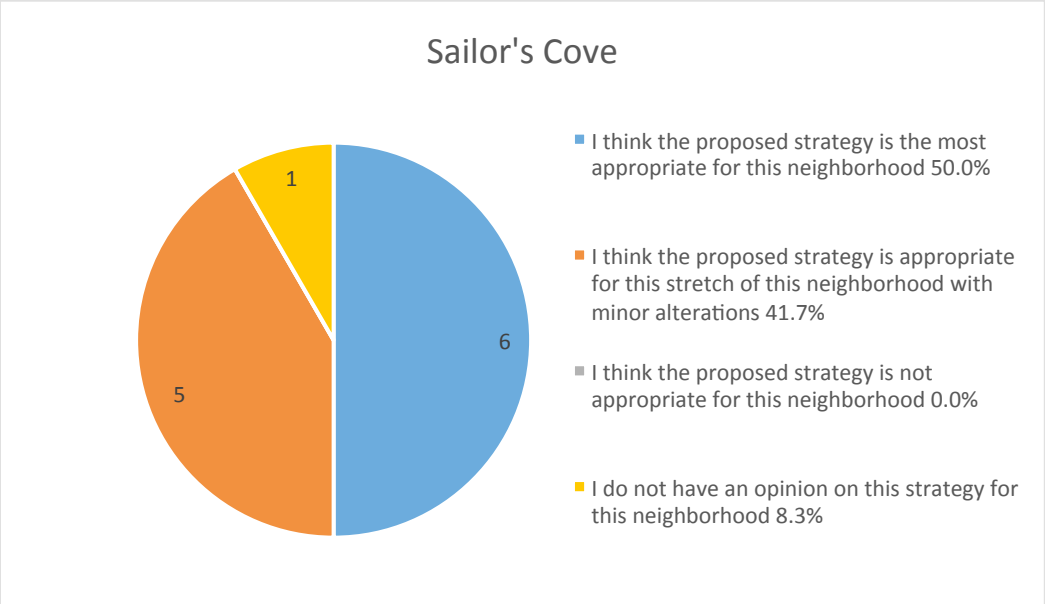
For the answer you gave above please, explain your reasoning and thoughts:
Elevation of the road should be done. Any new construction should take place on West side of North Street. The east side of the road is most wet lands and there are the trolley track that exist there are covered with vegetation should be moved to street level. This area east of North Street should be designated as wetland with no building allowed.
I like the concept of a Greenway along at least part of the Rondout and this is the right place for it.
I see that the elevated road is shown here, but not in the next slide for the park. There is a disconnect between the description of this and the next strategy.
Relocating or floodproofing houses discussed under Item 18. Greenway is the best approach with relocated trolley considered on an elevated North St.
Relocation of North Street upland/westward should be examined to determine whether it is necessary to avoid flood inundation over the long term. Development decisions should be aimed at facilitating the long term strategy, ie. if the road must be relocated in the future moving/acquiring parcels would be preferable. If the existing road alignment is viable but it should be elevated then adaptive actions of adjacent parcels should be coordinated. Extension/reconstruction of the trolley in conjunction with the road treatment may provide a transition opportunity.
Speaking from experience, the buyout process will never attain 100% participation and has other negative socio-economic impacts.
the north st property need to sold to the state & people re located. accommodation infeasible.

9. Adaptation Neighborhood: Kingston Point (1 Strategy)



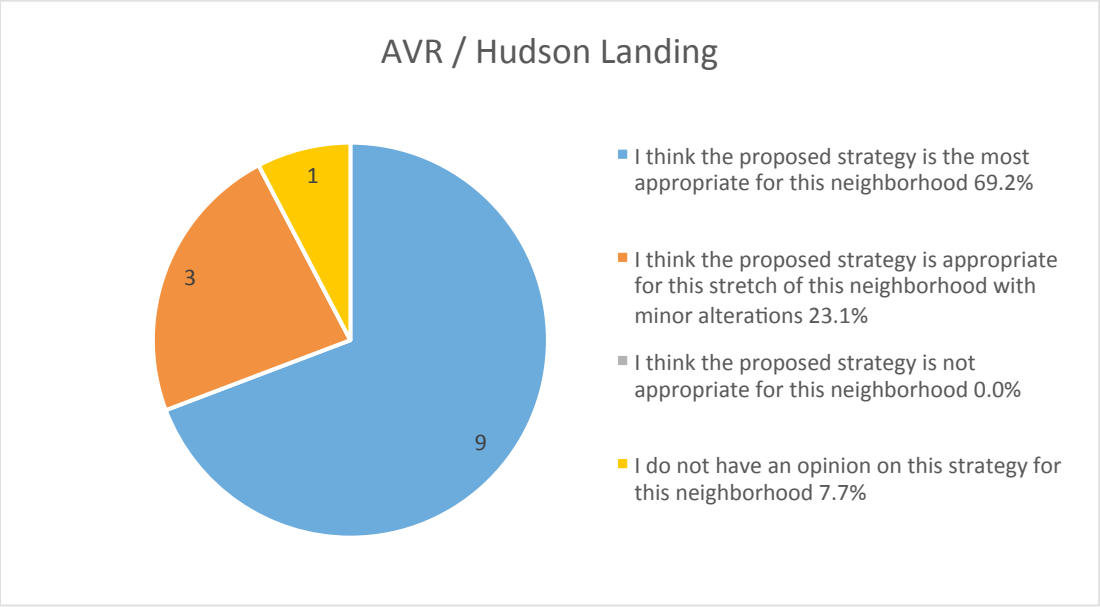
For the answer you gave above please, explain your reasoning and thoughts:
As previously stated, this ia good area for natural floodplain use. The recreational uses can co-exist in this environment; other uses need to be relocated.
Here again, I think that this is a good plan and most appropriate for the area.
I like this strategy...it accepts the altered use of an existing park and makes the best of it. The park remains a major access point for all to get to the river and isn't abandoned.
if designed properly this could be a wonderful by product of sea level rise....a major draw for commerce on the Hudson...try to zone and encourage access from both sides...boats from the river and people access from the land...don't design without encouraging appropriate infrastructure such as docks and restaurants....
In our smaller group discussions, we talked about the need to maintain North Street as a form of access, possibly by raising it, so that there would be a continuous access to future Hudson Landing and Sailors' Cove developments via light rail, as well as a possible trail connection to the park and these areas further north, which are also planning waterfront trails. The other access routes would not permit light rail (too hilly).
oil tanks need to be moved
Once again the feasible economic uses of the proposed area are not sufficient to support whole scale fill and armoring. Therefore, reconfiguration of uses sympathetic to water level change is the best strategy. Coordinate with natural resources planning to ensure healthy habitats are created. I'm not clear about what water dependent uses will be lost by the proposed strategies (see Cons). As far as I can tell the uses are maintained by being relocated. I'm not certain whether the oil tank site is contaminated and remediation will be adequate to support the proposed strategy. Provision of an alternative location for the oil tanks would facilitate relocation.
Relocate residential and commercial structures as they are repetitively inundated and damaged. Encourage wetland migration and sediment deposition to maintain wetland.
there is no logical cost effective alternative site to relocate to the storage facility,
These strategies proposed provide continued recreational access to the Hudson waterfront for areas above expected water level preserving at least some sense of community and place.

10. Adaptation Neighborhood: Sailor's Cove (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
Abandon / demolish unoccupied buidlings. Establish fringing wetlands Establish public beach
Any new construction should be moved back from the river and out of the flood plain. It is important not to build at the edge of the river and allow the wetlands and marshes to do their jobs. I believe that the walkway is expected to run through the area. Here again, it needs to be built back from the river's edge. The former brick yard should be demolished and made into a structure for parkland use. If Sailor's Cove is to be built, once again it should be built back from the shoreline and flood plain.
Due to SLR the Sailors Cove development will need to be redesigned according to new shoreline and St. Mary's will need to be floodproofed . North St. may have to be elevated in part for access since North St. appears to be subject to flooding esp in later phase.
I think that we should explore more related to soft shoreline techniques and migratory wetlands here, as this area is rich with sub-aquatic vegetation.
I'm not clear about what water dependent uses will be lost by the proposed strategy (see Cons). With coordinated adaptation of North Street in the adjacent areas, development may be viable here for an extended period of time if adequate elevation standards are observed.
Recommend development only on the upland side of North Street.
Since construction has not yet begun, now is the time to get cooperation / compliance with the developers for a feasible, long term, and safe design for housing that complements the work proposed for other areas.
this strategy gives up a lot in the end....sea level rise wins...if there was one place that I might capitulate it is here with the shoreline eventually becoming a place without people...I like development areas to be focused in the tributaries and not on the more visual frontage of the Hudson River
Very logical...

11. Adaptation Neighborhood: AVR/Hudson Landing (1 Strategy)



For the answer you gave above please, explain your reasoning and thoughts:
I am unclear what waterfront uses may be lost (see Cons). Only small portions of the site are subject to flood inundation. If road access is coordinated with adjacent sites flood risk should be manageable. This looks like a valuable area for redevelopment. Non-structural treatment of the shoreline would enhance environmental quality and support the desirability of the location. It would be desirable for development to incorporate pedestrian/bicycle/transit access. A new site for the waste water treatment plant should be conditioned by service requirements for these new development areas.
I like the strategy...but would like to point out that the neither the City of Kingston nor the developer is actually proposing to require this strategy. Presumably the Task Force recommendations with move in the direction of changing this....on a practical level..the proposed buildings for this development should ALL be built to accommodate storm surges, after the 66" SLR...including infrastructure such as roads. Let's make this real....
I think that we should explore more related to soft shoreline techniques and migratory wetlands here, as this area is rich with sub-aquatic vegetation.
little threat...little strategy...this is fine...
Once again all new construction should be built on land that is above the flood plain and that includes the walkway.
Same as previous
The promenade and much of the Hudson Landing proposed south neighborhood will need to consider SLR strategies. The road connecting the two Hudson Landing proposed neighborhoods may need to be elevated. These issues and strategies were not included under FGEIS but will need to be considered when SEIS is presented.
The suggestion to maintain the soft shoreline needs to be more fully detailed. How will it be graded, will it have an impact on the currently proposed Promenade? Most of the Hudson Landing development will occur at a safe elevation, and flood-proofing structures that are found near the flood area makes sense.