







# North Wagga Flood Risk Mitigation: **Community Engagement Surveys**

February 2024



# An overview of the Community Engagement Program

	1. Workshop with Council and Influencers	August
	2. Community Engagement Forum and one on one depth interviews	August
	3. Fine tuning of proposed solutions for flood mitigation based on community feedback	September
	4. Wider community surveys	December /January
	5. Presentation of outcomes from CBA results and community engagement	February  <b>We are here</b>

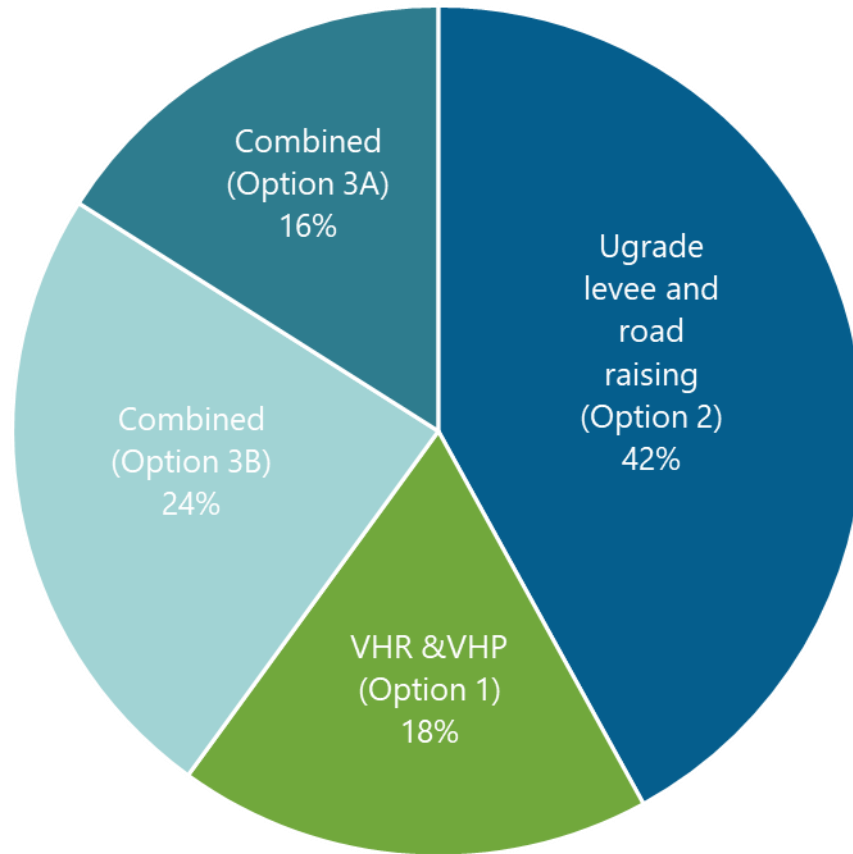
This presentation details the feedback from the Community surveys.



# Recap of findings from the Community Forum



# Conclusions from the forum



- Option 2, Upgrading the Levee and Road Raising was the most popular (21/50 participants), however this was mostly amongst North Wagga residents (19/50 participants).
- A similar number preferred a Combined Option (either 3A or 3B) – 20/50 participants.
- Therefore, an option that included the levee was selected by 41 of the 50 participants (82%).
- House Raising and Voluntary Purchase as a standalone solution, appeared to be the least preferred (9/50 participants).



# Findings from the Community Survey





# Research Methodology



**Two surveys were conducted from December 23- 31 January 24. The Open Survey closed on the 9<sup>th</sup> February.**

- Representative Community Survey (Main Survey) n=401
- Open online survey via Council Website (Open Survey) n=245
- Residents for the Main Survey were sourced via a combination of random telephone interviews and through an online research only panel.
- All respondents were required to be owners of a home in Wagga Wagga LGA
- As an adjunct to the Main survey, the survey was posted on the Council website to allow residents who weren't contacted as part of the main study to have their say.





**\*\*Results have been weighted in analysis to be representative of the population in terms of location.**



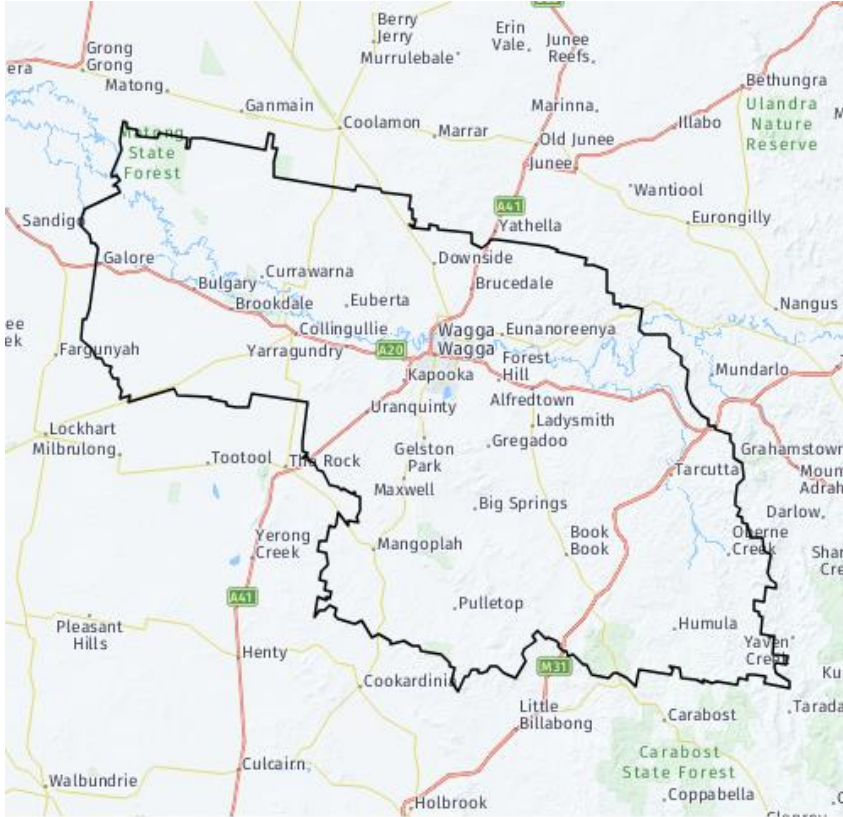
# Who we spoke to



Unweighted Base: All Respondents – Main Survey (n=401), Open Survey (n=245)

		Main survey %	Open Survey %
<div>Gender</div> <div></div>	Male	47	47
	Female	53	51
	Other (non gender specific/prefer not to say)	0	2
<div>Age</div> <div></div>	18-34	16	11
	35-49	18	31
	50-69	33	43
	70+	33	15
<div>CALD</div> <div></div>	Speak a language other than English at home	3	1
<div>ATSI</div> <div></div>	Identify as being Aboriginal and/or Torres Strait Islander	4	6

# Who we spoke to



Unweighted Base: All Main Survey Respondents (n=401) Open Survey (n=245)

Location	Main Survey %	Open Survey %
<b>Wagga Urban</b>		
Ashmont	6	5
Boorooma/Estella	6	5
Bourkelands/Tatton	6	4
Glenfield Park	8	4
Koorlingal	10	4
Mount Austin	4	2
Tolland	5	2
Turvey Park	6	4
Wagga Central	10	5
<b>Flood Impacted</b>		
Forest Hill/Gumly/East Wagga	6	2
North Wagga/Bomen/Cartwrights Hill	5	46
<b>South and Rural Wagga</b>		
Rural West Wagga - Collongullie/Currawarna/Galore/Gobbagombalin/ Uranquinty	9	6
Rural East Wagga - Humula/Ladysmith/Tarcutta/Mangoplah/Oura	5	1
Lake Albert	10	6
Springvale/Lloyd	4	1



# Voluntary House Purchase



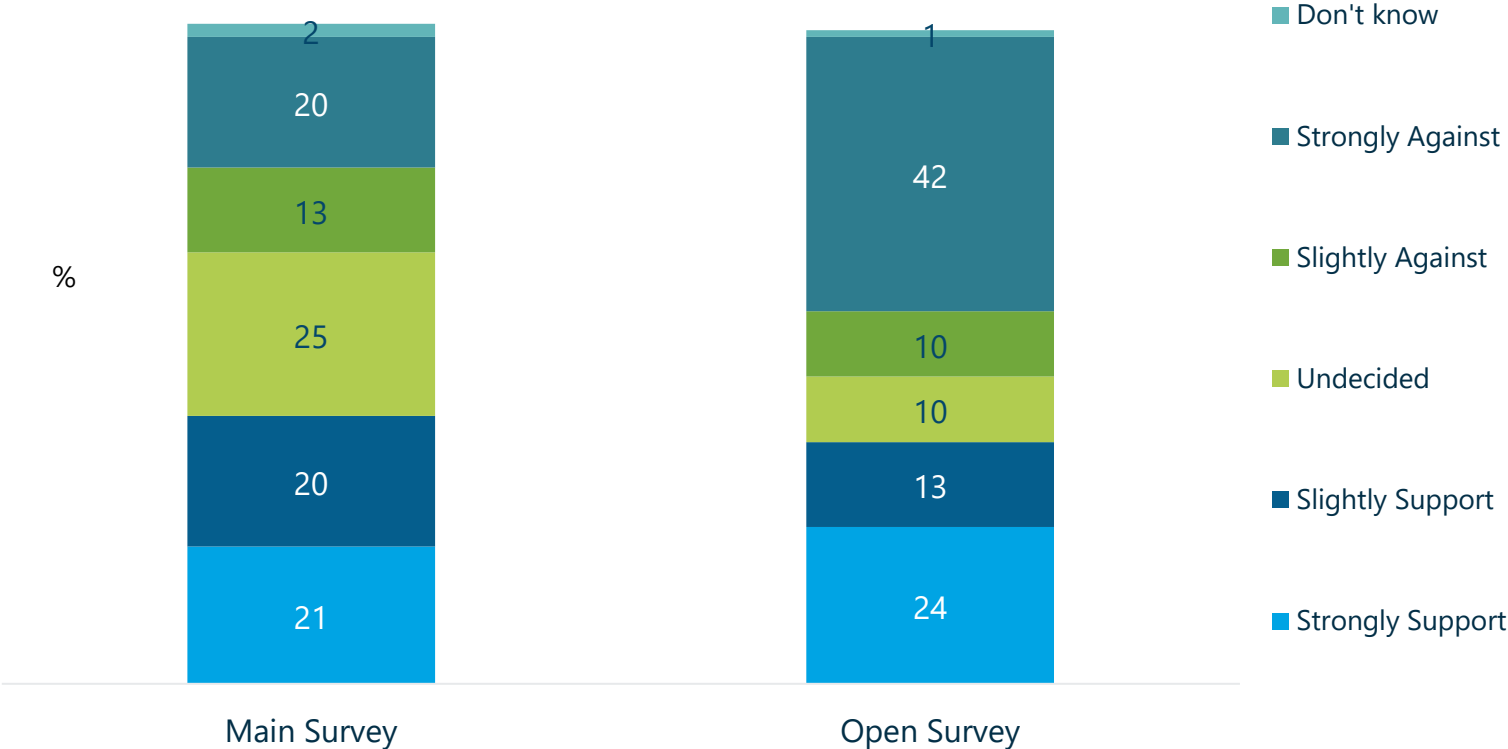
# Voluntary House Raising

# Degree of Support for Voluntary House Raising (VHR) and Voluntary House Purchase (VHP)

**Assumptions:**

- All homes within North Wagga that can be raised take up Voluntary House Raising (160 homes)
- The remainder take up Voluntary House Purchase (100 homes)
- Total estimated cost \$60 million
- The cost will be higher depending on how many homes outside North Wagga are raised or purchased.

In the Main Survey strong support was high in Wagga Urban (23%) and significantly lower in the flood impact areas (5%); in the Open Survey flood impacted residents were significantly more likely to be slightly against (23%).

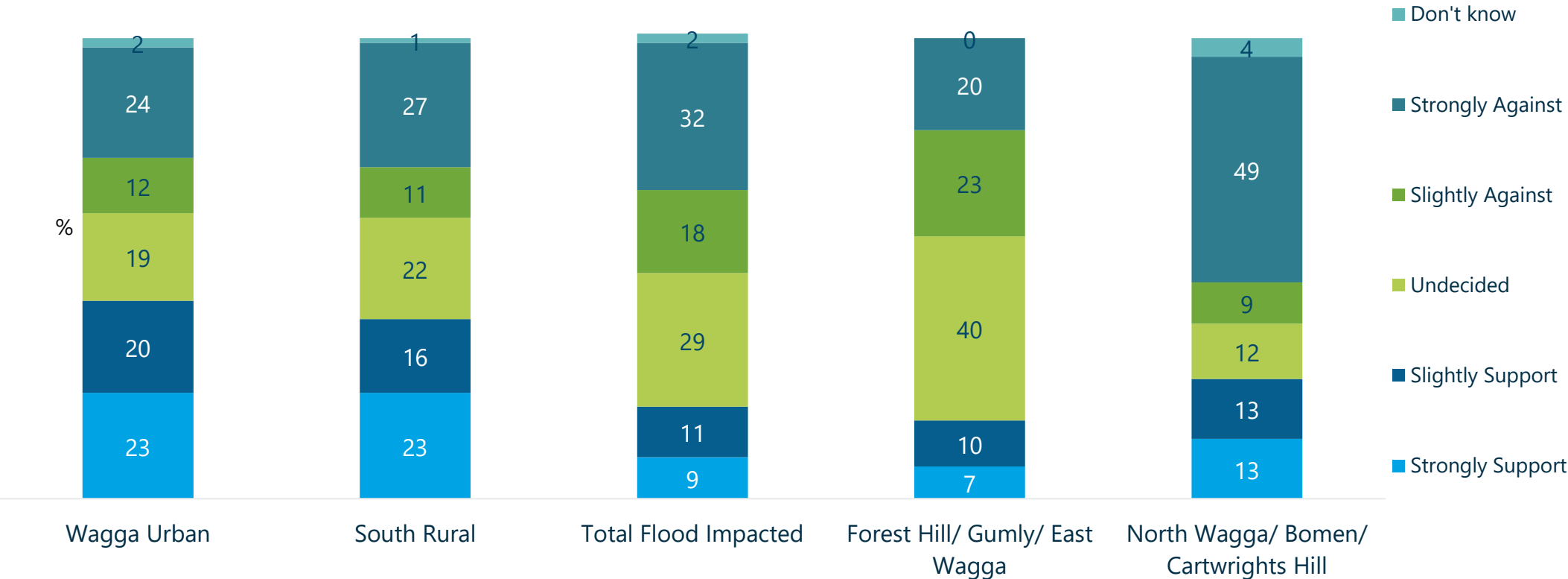


Q1. How supportive are you of Council implementing this option of Voluntary House Purchase and Voluntary House Raising?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)



# Degree of Support for Voluntary House Raising (VHR) and Voluntary House Purchase (VHP) - By location

Respondents from Forest Hill/Gumly/East Wagga were significantly more likely to be undecided about Option 1, while those from North Wagga/Bomen/Cartwrights Hill were significantly more likely to be strongly against this option.



Q1. How supportive are you of Council implementing this option of Voluntary House Purchase and Voluntary House Raising?  
Base: All Respondents n=646 (Wagga Urban n=329, South Rural n=149, Flood Impacted n=161, Forest Hill/Gumly/East Wagga n=30, North Wagga/Bomen/Cartwrights Hill n=131)

# Reasons for and against VHP & VHR

## REASONS FOR:

	Main Survey %	Open Survey %
It's voluntary/gives people choice to move to out of a flood risk area or stay in their home	21	14
House raising is good/no need to leave the area	16	10
It helps people/NFI	14	7
There shouldn't be houses there/reducing the number of houses there is a good thing	6	6
House purchase/relocation is a good thing	6	5
It reduces the risk to people/fixes the problem	4	14
People chose to live in North Wagga knowing the risks/their problem not ours	3	0
Cost is reasonable/helps people financially	0	10
Other	7	8
Don't know/need more information	13	4
Nothing/I don't like it/I'm against it	23	48

## REASONS AGAINST:

	Main Survey %	Open Survey %
Costs too much/increased rates/funds could be spent elsewhere	21	24
Ruins the North Wagga community/shortage of land elsewhere/don't want to move	17	14
People chose to live in North Wagga knowing the risks/their problem not ours	12	15
Unfair that others have to pay	11	0
There are better options than this/this option is not effective/feasible	9	18
I doubt homeowners would get market value/they would be offered a low price	6	5
Government shouldn't buy houses/land that can't be used	4	2
Timeframe is too long/will take too long	3	1
House purchase/buy back is a bad thing	3	1
Many houses can't be raised/doesn't suit elderly	0	12
Other	12	13
Don't know/need more information	12	5
Nothing/I like it/I'm not against it	15	14

Q2/3. What do you like/dislike about this option?

Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

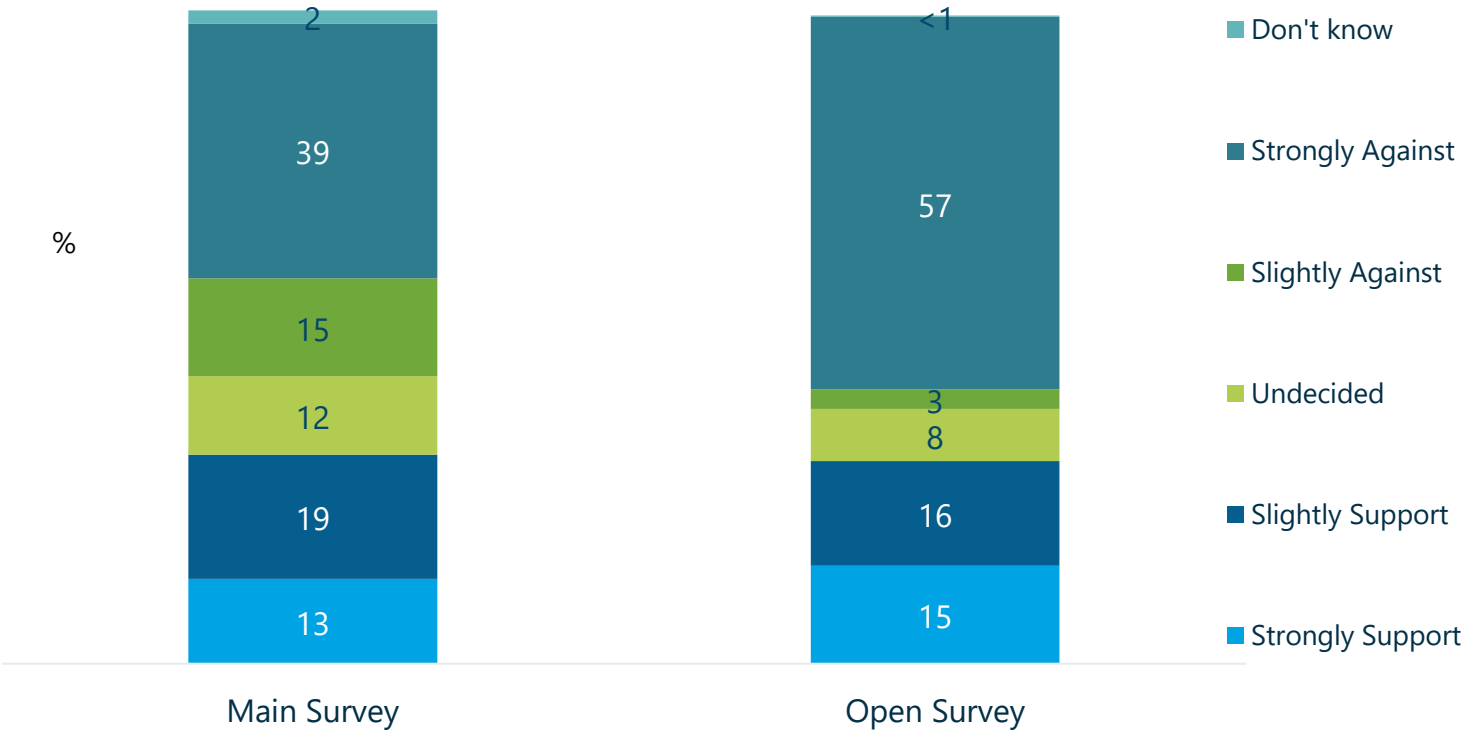


# Degree of Support for Voluntary House Raising and Voluntary Purchase with an associated SRV

**Assumptions:**

- Council might have to fund part of this cost through a special rate variation.
- It could mean an additional \$128 per household on average on Council rates for seven years in the urban area of Wagga
- An extra \$45 per year on average on Council rates for the Villages for seven years.

Within the Open Survey Flood impacted residents were more likely to be slightly against this (11%).



Q4. How supportive are you of Council implementing this option of Voluntary House Purchase and Voluntary House Raising?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

# Levee Upgrade

- Stage 1 - raising the levee to a 5% AEP level (or 1 in 20 chance of a flood event) to provide North Wagga with a greater level of protection.
- Stage 2 - the 'surrounding works' - raising a portion of Hampden Ave to provide a safe evacuation route for North Wagga residents and raising a section of Mill St to provide an evacuation route for residents within the East St Levee.
- Also involve the building of bridges and excavation works to offset the levee and embankment and enable equivalent water flow.
- The timing of stage 2 is unknown and subject to funding availability.



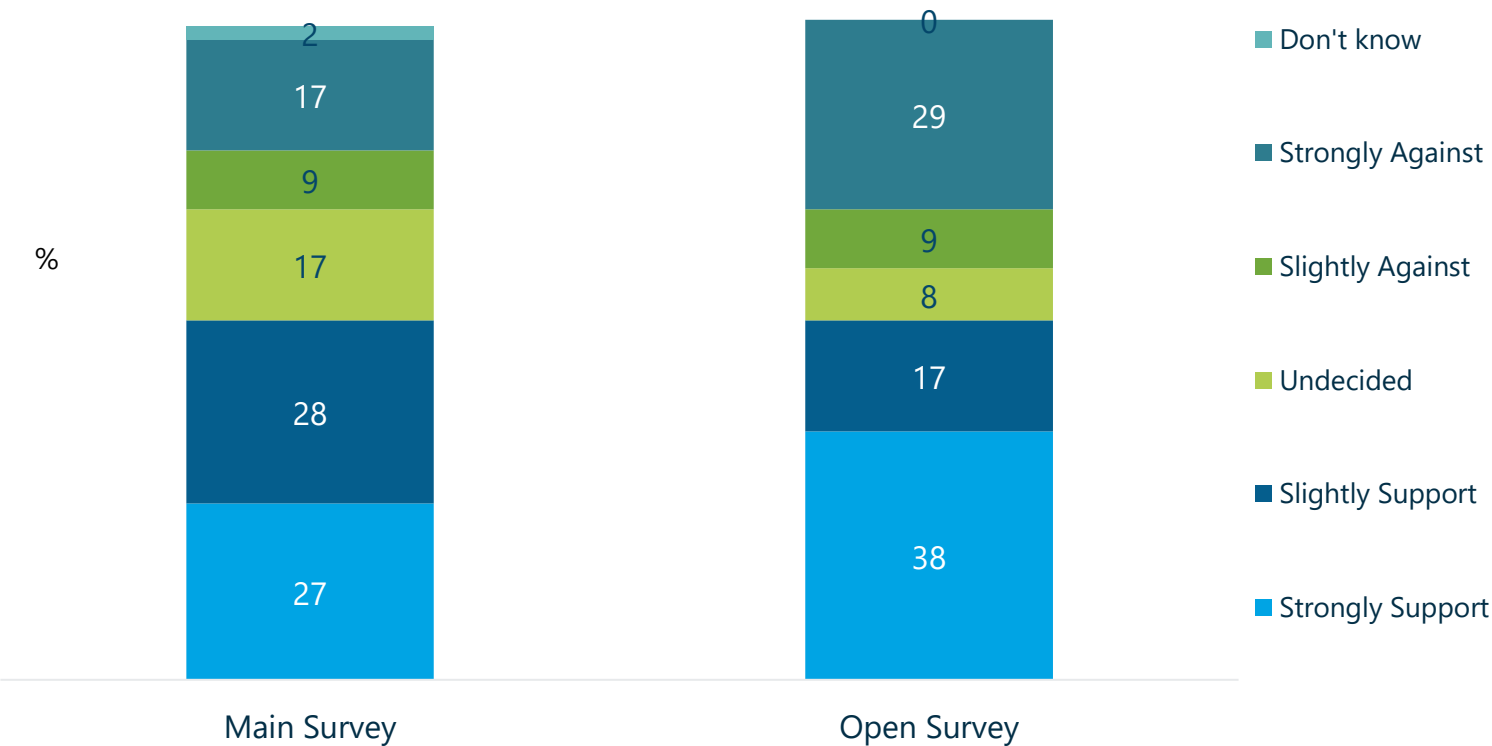


# Degree of Support for Levee and Surrounding Works

**Assumptions:**

- When both Stages 1 and 2 are implemented, in the majority of floods there would be a benefit (i.e avoid flooding in a 5% AEP level or 1 in 20 chance of a flood event) to 237 properties, but in the most extreme floods (i.e. in a 0.5% AEP or 1 in 200 chance (overtopping the main city levee) there could be a small negative impact on up to 697 properties.
- The cost estimate is:
  - Stage 1: \$10.3 million
  - Stage 2: \$75.7 million

A larger percentage of those from the open survey were in strong support of Stage 1 and 2 as a whole compared to main survey respondents.

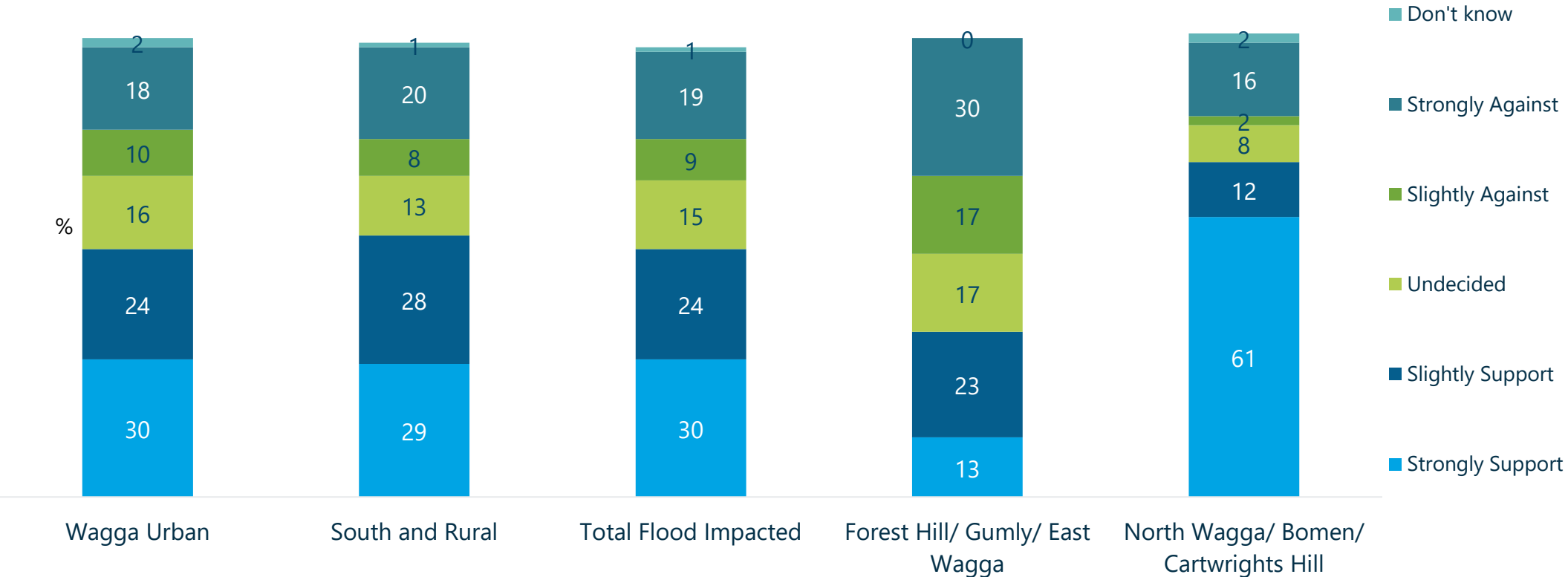


Q5. How supportive are you of Council implementing this option as a whole – Stages 1 and 2?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

# Degree of Support for Levee and Surrounding Works

## - By location

Residents from Forest Hill/Gumly/East Wagga were significantly less likely to be in strong support of implementing Stages 1 and 2. Those from North Wagga/Bomen/Cartwrights Hill were significantly more likely to strongly support this option as a whole.



Q5. How supportive are you of Council implementing this option as a whole – Stages 1 and 2?  
Base: All Respondents n=646 (Wagga Urban n=329, South Rural n=149, Flood Impacted n=161, Forest Hill/Gumly/East Wagga n=30, North Wagga/Bomen/Cartwrights Hill n=131)



# Reasons for and against Levee and Surrounding Works

## REASONS FOR:

	Main Survey %	Open Survey %
People can stay in their houses/preserves North Wagga community	19	16
Stage 1/Raising the levee is good NFI	18	18
This option is cheaper/the better option	12	12
Helps people/gives reassurance/safety	11	18
Community solution/will benefit people outside N.Wagga too	11	7
Stage 2/Improved roads, bridges, evacuation route is good	9	4
Gives N.Wagga people more time to evacuate	8	4
It is fair/Wagga city had their levee increased so should N.Wagga	4	2
Long term/good future planning	4	3
Other	4	5
Don't know/need more information	9	0
Nothing/I don't like it/I'm against it	22	33

Q6/7. What do you like/dislike about this option?

Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

## REASONS AGAINST:

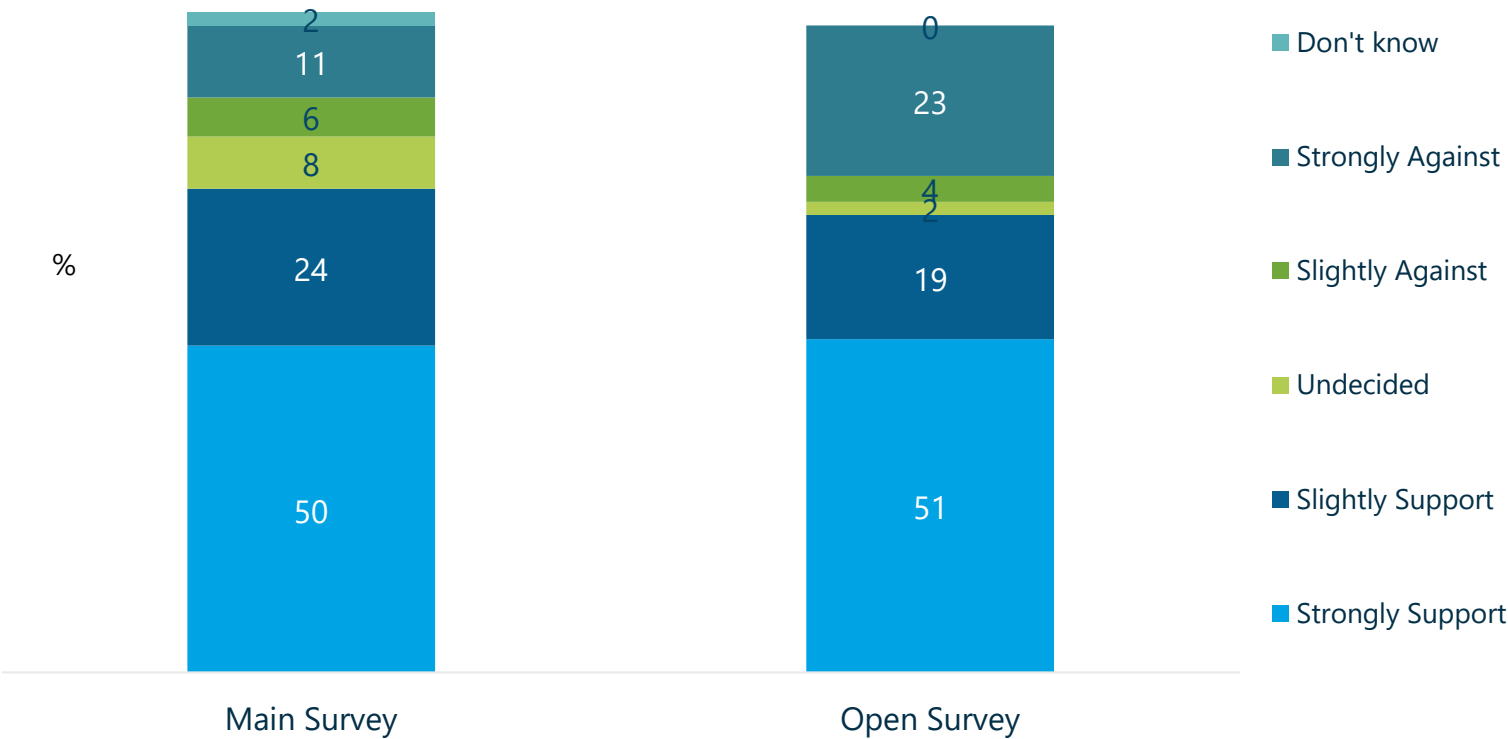
	Main Survey %	Open Survey %
Costs too much/increased rates/funds could be spent elsewhere	28	16
Impacts on other areas outside the levee/just moves the problem	12	14
Won't solve the issue/there is still a risk of flooding/band aid approach	12	8
Unfair that others have to pay/taxpayers have to pay	11	15
Requires a lot of work/will take too long	6	3
People chose to live in North Wagga knowing the risks	4	10
Don't like the idea of raising the levee	3	8
Stage 2 is unnecessary/extra cost	0	12
The two stages shouldn't go together/overkill/waste of money	2	2
Other	1	12
Don't know/need more information	12	1
Nothing/I like it/I'm not against it	26	23

# Degree of Support for Upgrading the Levee

## - Completing Stage 1 (upgrading the levee only)

**Assumptions:**

- Council could complete Stage 1 with existing funds.



Q8. Taking the funding of these stages separately, how supportive are you of Council implementing Stage 1 of this option (upgrading the levee only) using existing funds?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

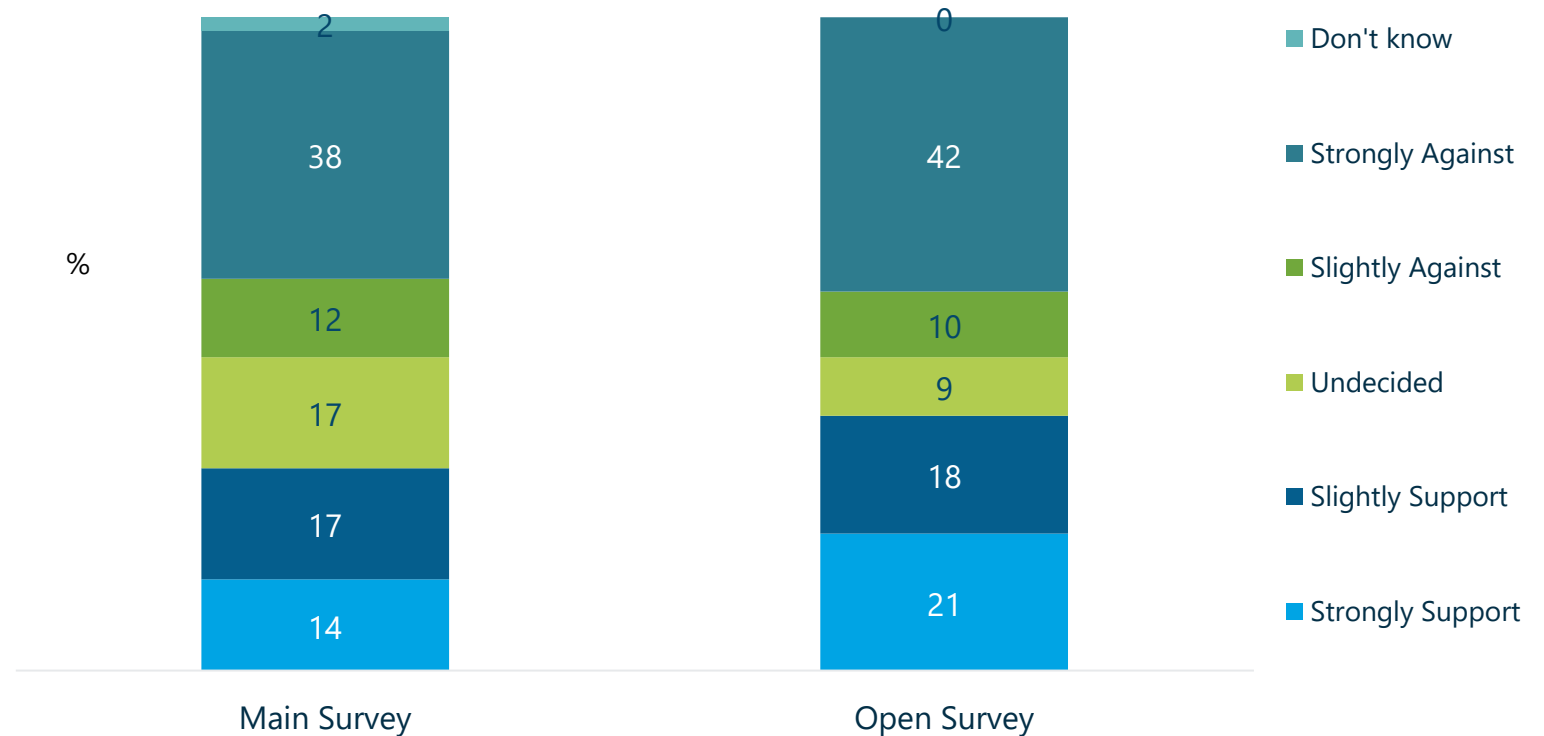
# Degree of Support for the Surrounding Works

## - Completing Stage 2 (the surrounding works – road raising, bridges and excavation)

### Assumptions:

- Stage 2 is contingent upon Government funding and a special rate variation for Council to fund its share.
- It could mean an additional \$173 per household on average on Council rates for seven years in the urban area of Wagga
- An extra \$61 per year on average on Council rates for the Villages for seven years.

Flood impacted residents were less likely to be against this in the Open Survey (3%), with again no significant differences in the main survey by location



Q9. How supportive are you of Council implementing Stage 2 of this option (the surrounding works – road raising, bridges and excavation), with the associated special rate variation?

Base: All Respondents (Main survey respondents N=401; Open Survey n=245)



## Combined Option

Option 3 would include three projects:

- Project 1
  - Upgrading the existing North Wagga Levees (stage 1)
  - Offering VHR and VHP to those outside the levee boundary (e.g. including eligible houses in and around North Wagga, Oura, Gumly Gumly).
- Project 2
  - 'Surrounding works' – raising roads, bridges and excavation between Wagga and North Wagga along Hampden Ave.
- Project 3
  - Offering VHR and VHP to residents inside the North Wagga Levee system, where the risk reduction is greater than the cost of the action.

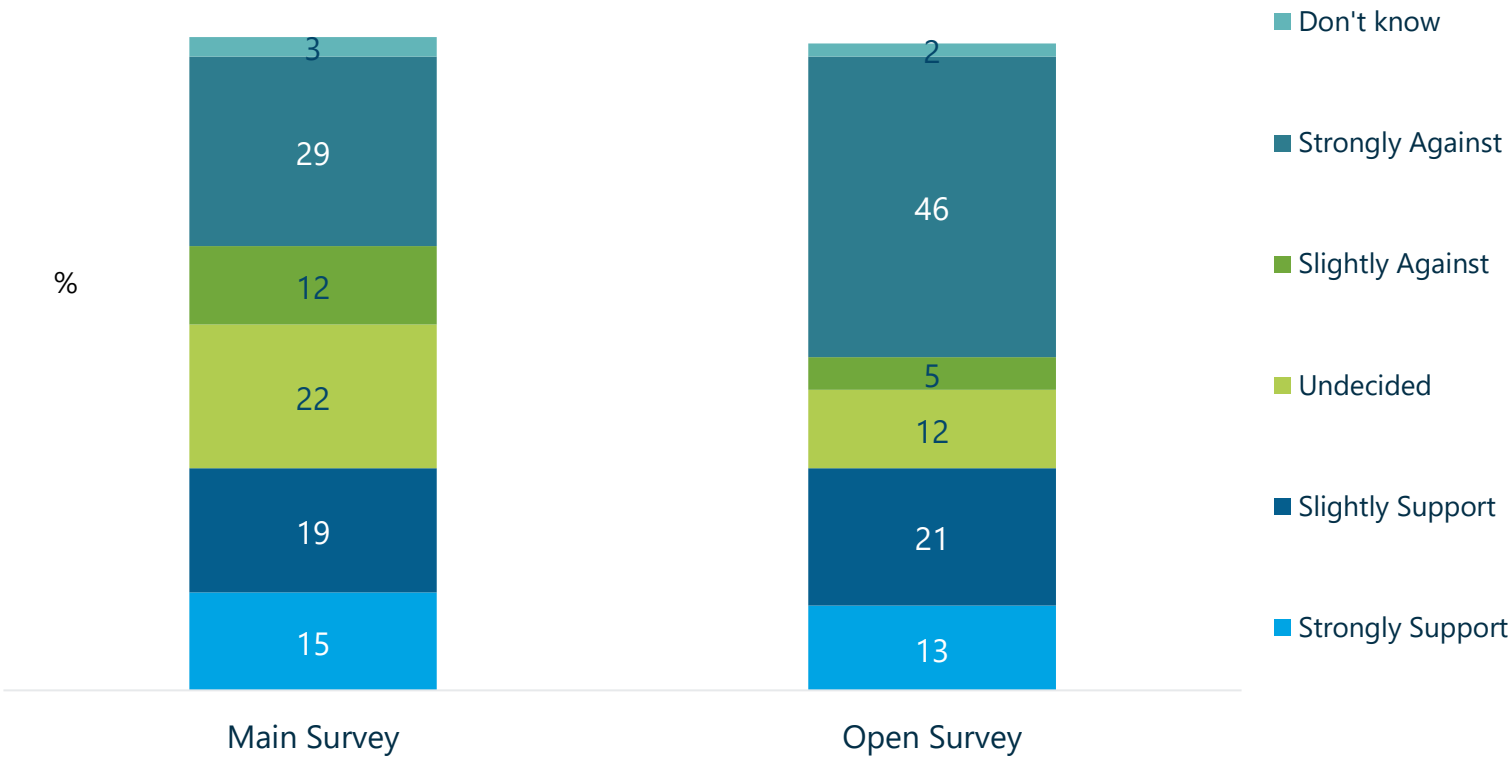


# Degree of Support for a Combined Option

## Assumptions:

- In the majority of floods there would be a benefit (i.e. avoid flooding in up to 5% AEP level or 1 in 20 chance of a flood event) to 237 properties, but in the most extreme floods (i.e. 0.5% AEP or 1 in 200 chance (overtopping the main city levee) there could be a small negative impact (increased flood height) on up to 697 properties.
- The cost estimate is:
  - Project 1 \$20M
  - Project 2 \$75.7M
  - Project 3 \$10M

Flood impacted residents were significantly more likely to support this in the Open Survey (50%), with again no significant differences in the main survey by location

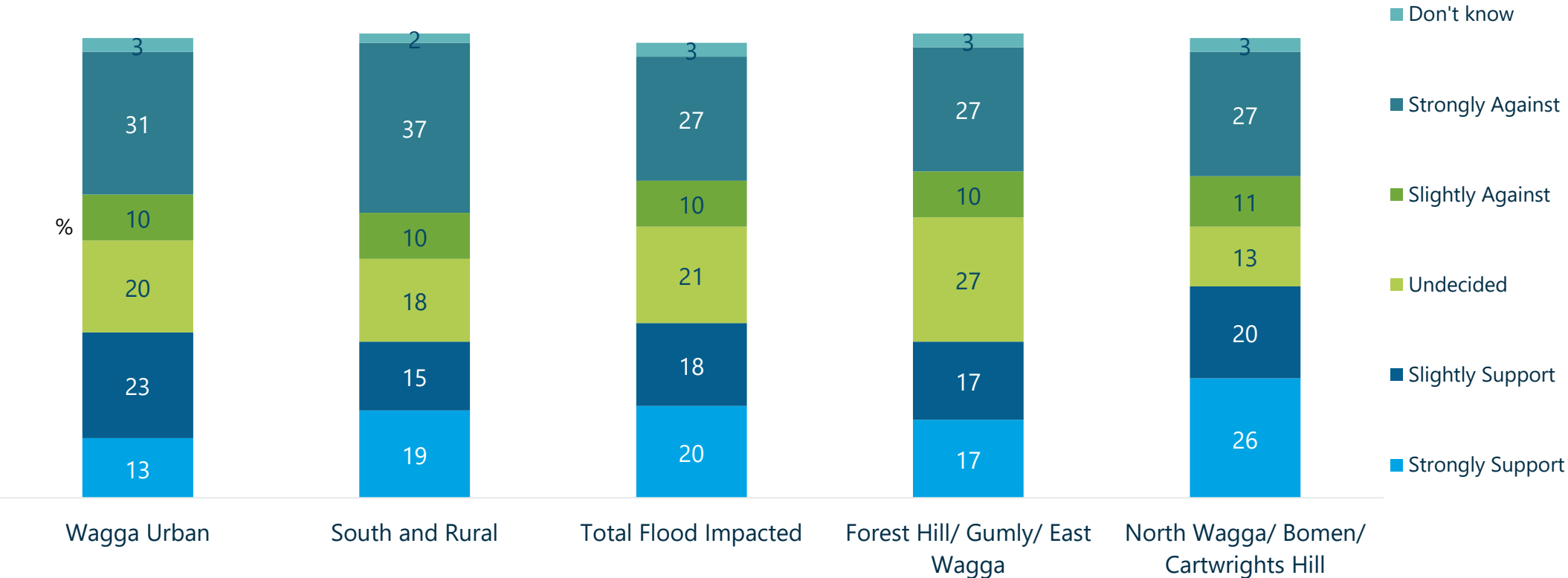


Q10. How supportive are you of Council implementing Option 3 as a whole?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

# Degree of Support for a Combined Option

## - By location

North Wagga/Bomen/Cartwrights Hill residents were significantly more likely to be in strong support of a combined option



Q10. How supportive are you of Council implementing Option 3 as a whole?  
Base: All Respondents n=646 (Wagga Urban n=329, South Rural n=149, Flood Impacted n=161, Forest Hill/Gumly/East Wagga n=30, North Wagga/Bomen/Cartwrights Hill n=131)



# Reasons for and against Combined Option

## REASONS FOR:

	Main Survey %	Open Survey %
All inclusive option/variety of solutions/there's a benefit for everyone	22	21
It's voluntary/gives people choice to move out of flood risk area or stay in their home	13	7
It reduces the risk/fixes the problem/helps people	7	10
Cost is cheaper by combining the options	6	2
Raising the levee is good	5	21
Improving roads and bridges/providing escape routes is good	4	1
House purchase/relocation is good	4	4
House raising is good	4	4
Other	2	4
Don't know/need more information	17	3
Nothing/I don't like it/I'm against it	37	40

## REASONS AGAINST:

	Main Survey %	Open Survey %
Costs too much/increased rates/funds could be spent elsewhere	32	22
Unfair that others have to pay/taxpayers have to pay	18	12
Doesn't make sense to combine options 1 and 2/double dipping/overkill	11	10
Not feasible/not practical/not going to fix the problem	8	19
Raising the levee is bad	7	3
People chose to live in North Wagga knowing the risks	6	9
Don't trust the council with money/to do the right thing/get it done	4	4
House purchase/relocation is bad	3	2
Moving people from N.Wagga destroys the community/don't want to move	0	3
Other	5	14
Don't know/need more information	18	2
Nothing/I like it/I'm not against it	13	9

Q11/12. What do you like/dislike about this option?

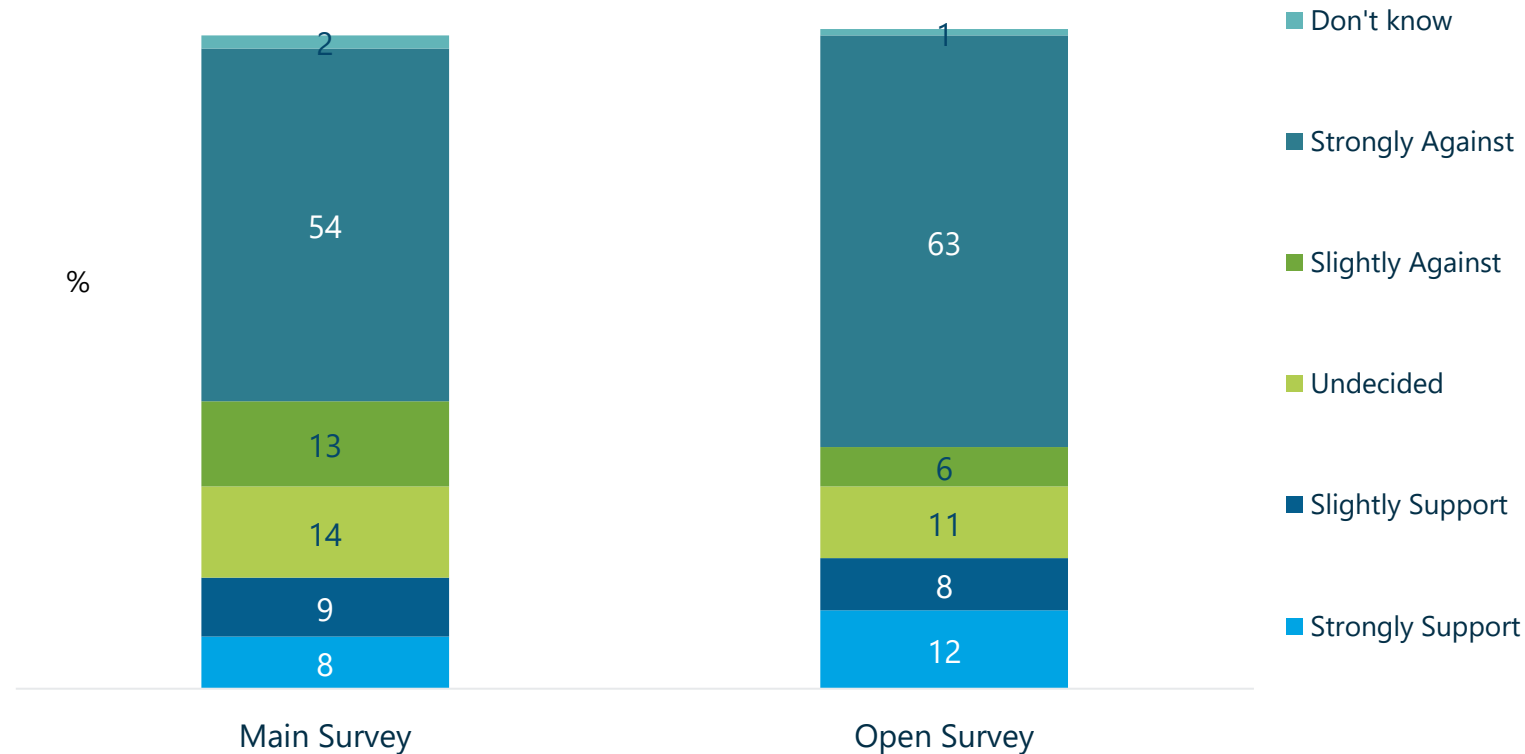
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

# Degree of Support for a Combined Option with a SRV

Open Survey flood impacted residents were less likely to be against a SRV (55%) and more likely to be undecided (29%)

**Assumptions:**

- Council will have to fund part of this through an SRV.
- This could be \$321 extra per year for seven years for residents in Urban Wagga
- Around \$114 a year extra for seven years for village residents.



Q13. How supportive are you of Council implementing this option with an associated SRV?  
Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

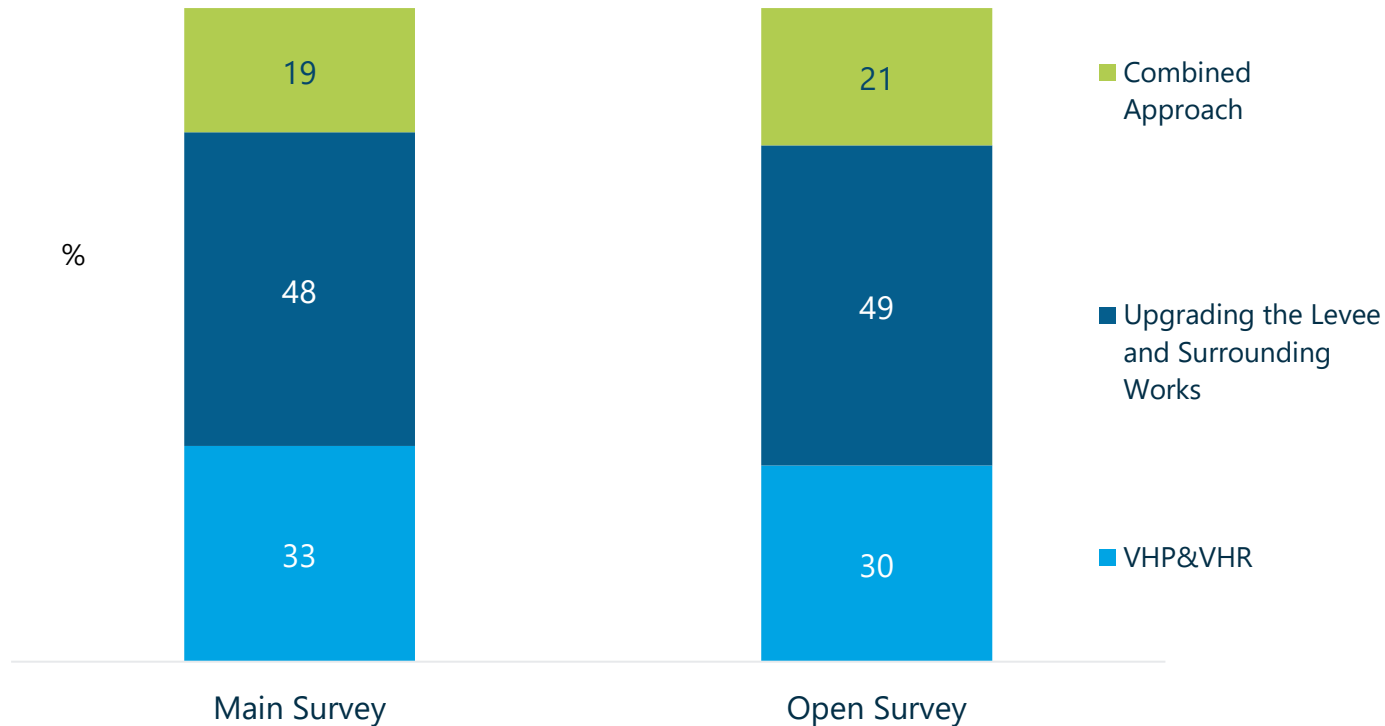
Preferred Option





# Preferred Option - % ranked first

In the Open Survey flood impacted residents were significantly more likely to rank VHR/VHP last (59%) and less likely to rank the combined approach last (26%)



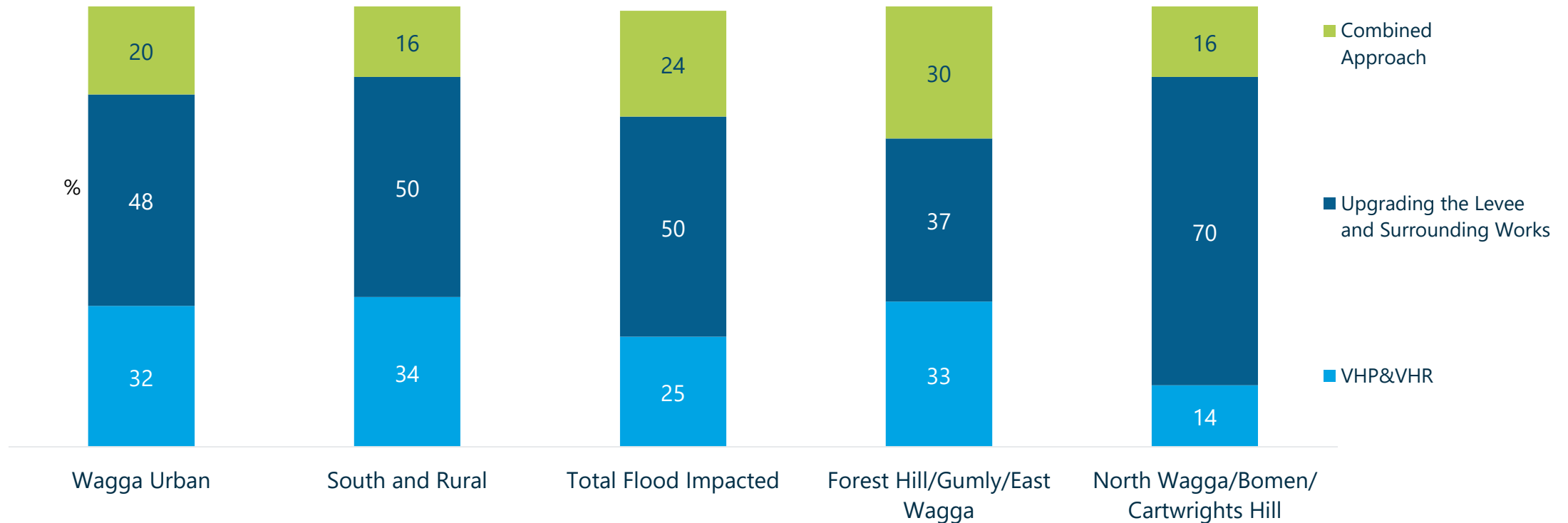
Q14. Now that you have been introduced to each of the three options being considered, please rank the three options in order of preference, Which option would be your most preferred? And which would be your least preferred option?

Base: All Respondents (Main survey respondents N=401; Open Survey n=245)

# Preferred Option - % ranked first

## - By location

Respondents from North Wagga/Bomen/Cartwrights Hill were significantly more likely to rank VHP/VHR last (70%) and upgrading the levee with surrounding works first (70%).



Q14. Now that you have been introduced to each of the three options being considered, please rank the three options in order of preference, Which option would be your most preferred? And which would be your least preferred option?

Base: All Respondents n=646 (Wagga Urban n=329, South Rural n=149, Flood Impacted n=161, Forest Hill/Gumly/East Wagga n=30, North Wagga/Bomen/Cartwrights Hill n=131)

# Conclusions

- Within the community forums there was support for the upgrading of the levee along with VHP and VHR in Oura, Gumly Gumly and the floodplains at the least.
- The community survey seems to support this view, with Option 2, particularly Stage 1 (upgrading the levee only) whereby it is funded by Council, having strong appeal (74%).

% Strongly/slightly supporting	Main Survey %	Open Survey %
<b>Option 1</b>		
VHR and VHP	41	37
VHR and VHP (funded by SRV)	31	31
<b>Option 2</b>		
Levee Upgrade and Surrounding Works (Stage 1 & 2)	<b>55</b>	<b>55</b>
Stage 1: Levee upgrade only (funded by Council)	<b>74</b>	<b>70</b>
Stage 2: Surrounding works (funded by SRV)	31	39
<b>Option 3</b>		
Stage 1 & 2 plus VHR and VHR for those inside and outside the levee	34	34
Combined option (funded by SRV)	17	20



# Conclusions

- In terms of overall preference, Option 2 again comes through as the most popular option in both the main and particularly, the open survey.
- However, amongst flood impacted residents, a combined option that includes VHR & VHP also has strong appeal.

Option 1 Voluntary House Raising and Purchase appeals as:

- It's voluntary/ gives choice
- No need to leave the area
- Helps people

However,

- The cost is unappealing
- Ruins the NW community/ shortage of land elsewhere
- People live there knowing the risks, so it is not others' problem

Option 2 levee upgrade (both stage 1 and 2) appeals as:

- People can stay in their houses and it preserves the community
- Stage 1 only is a good option

However,

- The cost of Stage 2 is unappealing
- It is felt to be unfair to ask others/taxpayers to pay

The Option 3 (combined approach), is felt to be:

- All inclusive/ benefits everyone
- Includes levee raising which is good

However,

- It costs too much/funds could be spent elsewhere
- Unfair that everyone must pay
- Not feasible/practical/going to fix the problem



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