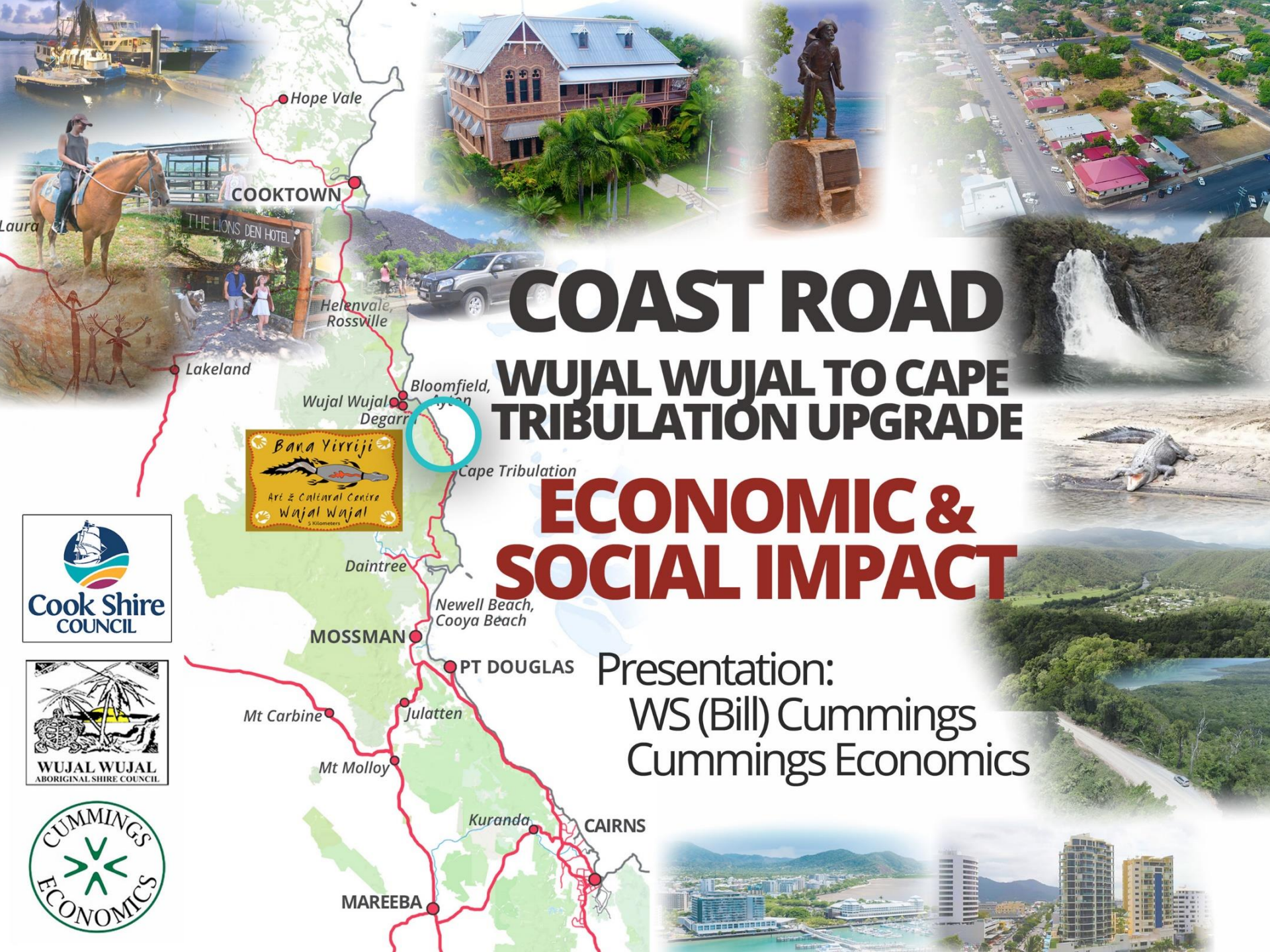


COAST ROAD

WUJAL WUJAL TO CAPE TRIBULATION UPGRADE

ECONOMIC & SOCIAL IMPACT

Cook Shire COUNCIL

WUJAL WUJAL ABORIGINAL SHIRE COUNCIL

CUMMINGS ECONOMICS

Presentation:

WS (Bill) Cummings

Cummings Economics

OBJECTIVES

- FORMAL BENEFIT COST ANALYSIS, ECONOMIC & SOCIAL IMPACT
- EXPANDED TO IMPACT ON OTHER COMMUNITIES, ESPECIALLY DAINTREE / CAPE TRIBULATION

LAYOUT

- SUMMARY OF MAIN FINDINGS
- MAIN REPORT & ANALYSIS
- APPENDICES – SURVEY REPORTS (HOUSEHOLD, REGULAR USERS, TOURISM OPERATORS, COACH/TOUR/RENTAL CAR

BENEFIT COST ANALYSIS

COMPARE PROJECT CASE AGAINST BASE CASE

PROJECT PERIOD	30 YEARS
DISCOUNT RATES	4% REAL (7%) (10%)
NET PRESENT VALUE	NPV
BENEFIT COST RATIO	**NPV BENEFITS** ÷ NPV COSTS

TWO APPROACHES TO BENEFITS

1. ECONOMIC EFFICIENCY
   - TRAVEL TIME
   - VEHICLE OPERATING COSTS
   - SAFETY
   - WIDER BENEFITS

   ***INTEREST** :*

   INFRASTRUCTURE AUSTRALIA

   MAIN ROADS MODELLING

2. ECONOMIC IMPACT
   - IMPACT ON ECONOMY & JOBS

   INTEREST:

   POLITICAL

   COMMUNITY

EXISTING TRAFFIC

PROBLEM NO RECENT COUNTS : DEGARRA 2007
ESTIMATED THROUGH SURVEYING REGULAR USERS

Table #6: Estimated Seasonal Composition of Traffic on Cape Tribulation Wujal Wujal Road

	Tourist Season		Other		Average Yearly	
Type of vehicle	**%**	**No.**	**%**	**No.**	**%**	**No.**
4WD	76%	114	75%	61	76%	87
2WD	16%	25	12%	10	15%	18
Coaches	2%	3	3%	1	2%	2
Trucks	6%	8	10%	8	7%	8
Total vehicle	**100%**	**150**	**100%**	**80**	**100%**	**115**
Type of traveller – light vehicles						
Tourist	66%	100	43%	34	57%	65
Business	8%	12	9%	7	8%	10
Residential	18%	27	37%	30	26%	30
Total light	**92%**	**139**	**89%**	**71**	**91%**	**105**
Type of traveller – heavy vehicles						
Coaches	2%	3	1%	1	2%	2
Trucks	6%	8	10%	8	7%	8
Total heavy	**8%**	**11**	**11%**	**9**	**9%**	**10**
Total traveller	**100%**	**150**	**100%**	**80**	**100%**	**115**

CAPITAL COSTS

(Source Wujal Wujal & FNQ ROC)

1. INITIAL ADVICE

   28km X $2m = $56m

   MAINTENANCE SAVING

   $700,000 pa → $300,000 pa

   NPV SAVING = $6.9m

   NPV COST = $49m

2. FURTHER ADVICE WUJAL

   ADDITIONAL WORKS INCLUDING SAFETY = TOTAL $70m

TRAFFIC IMPACT ASSESSMENT : DISTANCES

Compared with the Coast Road route, the interior route increases the distance of a trip to Cairns by the following distances and percentages:

From Cooktown	84.3 km	36%
From Rossville	92.4 km	47%
From Wujal Wujal	174.2 km	108%

Additional distance of the interior route to Mossman is as follows.

From Cooktown	69.0 km	40%
From Rossville	77.0 km	55%
From Wujal Wujal	158.8 km	159%

IMPACT TRAVEL TIMES

SURVEYING, TRIALING, VIDEO

Table #8: Coast Road Travel Times and Speeds

	Distance	Travel time	Average speed
Cairns (Smithfield roundabout) to Daintree Ferry	88 km	1 hr 12 mins	73 km/hr
Daintree Ferry to end of bitumen Cape Tribulation	37 km	43 mins	51 km/hr
Unsealed section Cape Tribulation to Wujal Wujal	28 km	45 mins	37 km/hr
End of unsealed section to Cooktown	75 km	1 hr 00 mins	75 km/hr
Total	**228 km**	**3 hr 40 mins**	**62 km/hr**

TRAVEL TIME SAVINGS WHEN SEALED

WUJAL WUJAL / CAPE TRIBULATION

LIGHT	45 min to 25 min	SAVING 20 min
HEAVY	60 min to 35 min	SAVING 25 min

TRAVEL TIME SAVINGS WHEN SEALED COMPARED WITH INTERIOR ROAD

From Cooktown	0.67	hours
From Rossville	0.77	hours
From Wujal Wujal	1.47	hours

ESTIMATED IMPACT ON TRAFFIC

Residential	30 to 70 a day
Business	10 to 30 a day
Tourism	65 to 220 a day
Heavy vehicles	10 to 19 a day
Total	**115 to 339 a day**

(mainly from Cooktown)

It is estimated that this will be split:

- 102 diverted from the interior route (mainly Cooktown residents and business and some tourists who will circuit)
- 121 generated especially additional tourists to the Cooktown area.

cf CURRENT

Blackpinch	340
Lakeland	540

BENEFIT COST ANALYSIS

UNDERLYING GROWTH

RESIDENTIAL & BUSINESS	2% pa
VISITORS	3% pa

ONE OFF GROWTH

TYPE OF CHANGE

= EXISTING

= DIVERTED

= GENERATED

TRAVEL TIME SAVINGS

Table #17: **Estimated Annual Travel Time Savings**

	AADT	Vehicles Per Annum	Hours Saved	Saving Per Vehicle	Saving Per Annum
	Tourist Vehicles				
Current	65	23725	0.33	$10.95	$259,789
Additional generated	110	40150	0.33	$5.48	$220,022
Additional diverted	45	16425	0.67	$22.23	$365,128
Total					**$844,939**
	Resident Vehicles				
Current	30	10950	0.33	$10.95	$119,903
Generated	11	4015	0.33	$5.48	$22,002
Diverted					
Bloomfield Wujal Wujal	2	730	1.57	$52.09	$38,026
Rossville Helensvale	1	365	0.77	$25.55	$9,326
Cooktown	26	9490	0.67	$22.23	$210,963
Total					**$400,219**
	Business Vehicles				
Current	10	3650	0.33	$23.08	$84,242
Diverted					
Bloomfield Wujal Wujal	2	730	1.47	$102.83	$75,066
Rossville Helensvale	1	365	0.77	$53.86	$19,659
Cooktown	17	6205	0.67	$46.87	$290,828
Total					**$469,795**
	Heavy Vehicles – Trucks				
Current	8	2920	0.42	$15.23	$44,472
Diverted					
Cooktown	8	2920	1.35	$48.95	$142,934
Total					**$187,406**
	Heavy Vehicles – Coaches				
Current	2	730	0.42	$81.62	$59,583
Generated	1	365	0.42	$40.81	$14,896
Total					**$74,478**
Grand total					**$1,976,837**

Table #19: Estimated Annual Vehicle Operating Cost Savings

	AADT	Vehicles Per Annum	Saving Per Vehicle	Saving Per Annum
	Light Vehicles - Tourists			
Current	65	23725	$5.23	$124,082
Additional generated	110	40150	$2.62	$105,193
Additional diverted	45	16425	$29.42	$483,224
Total				**$712,498**
	Light Vehicles – Local			
Current	30	10950	$5.23	$57,269
Generated	11	4015	$2.62	$10,519
Diverted				
Bloomfield Wujal Wujal	2	730	$60.94	$44,486
Rossville Helensvale	1	365	$32.22	$11,760
Cooktown	26	9490	$29.42	$279,196
Total				**$403,230**
	Light Vehicles - Business			
Current	10	3650	$5.23	$19,090
Diverted				
Bloomfield Wujal Wujal	2	730	$60.94	$44,486
Rossville Helensvale	1	365	$32.22	$11,760
Cooktown	17	6205	$32.22	$199,925
Total				**$275,261**
	Heavy Vehicles – Trucks			
Current	8	2920	$6.94	$20,265
Diverted				
Cooktown	8	2920	$75.28	$219,818
Total				**$240,082**
	Heavy Vehicles - Coaches			
Current	2	730	$6.94	$5,066
Current	1	365	$3.47	$1,267
Total				**$6,333**
Grand Total				**$1,637,405**
Plus Special Cost Allowance of 5% (see Section 7.9)				**$1,719,255**

VEHICLE OPERATING COST SAVINGS

NPV OF SAVINGS TRAVEL TIME & VOC

Table #20: Calculation of Travel Time and VOC Saving, Net Present Value [1]

	Tourism Vehicles					
	Annual Savings					
	Travel time	VOC	Total	Growth rate	Factor	Net Present Value
Light Vehicles						
Tourism	$844,939	$748,123	**$1,593,062**	3.00%	25.74	$41,005,407
Local	$400,219	$423,392	**$823,610**	2.00%	23.27	$19,165,415
Business	$469,795	$289,024	**$758,819**	2.00%	23.27	$17,657,725
Heavy Vehicles						
Trucks	$187,406	$252,087	**$439,493**	2.00%	23.27	$10,226,991
Coaches	$74,478	$6,649	**$81,127**	3.00%	25.74	$2,088,219
Total	**$1,976,837**	**$1,719,275**	$3,696,111			**$90,143,758**

[1] Note: At 4% discount rate over a 30-year project period.

SAFETY: CRASHES LAST FIVE YEARS

Table #21: Crashes Bloomfield Road Cape Tribulation to Wujal Wujal, 5 years – 2013 to 2017

Crash Severity	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	0	1	**1**
Hospitalisation	0	0	0	1	1	**2**
Medical treatment	0	0	0	1	1	**2**
Minor injury	1	1	0	0	0	**2**
Total Crashes	**1**	**1**	**0**	**2**	3	**7**

Table #22: Crashes Mulligan Highway, Lakeland to Cooktown, 5 years – 2013 to 2017

Crash Severity	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	1	0	**1**
Hospitalisation	0	1	0	0	2	**3**
Medical treatment	0	0	0	0	2	**2**
Total Crashes	**0**	**1**	**0**	**1**	4	**6**

CRASH COSTS

National Guidelines for Transport Management in Australia Road Parameters (PV2) gives estimated costs of crashes by injury type by willingness to pay adjusted to 2017 values.

Fatal	$8,041,313
Hospitalisation	$83,369
Medical treatment/Minor injury	$38,780

NPV	• NOT UPGRADED	$40.7 m
NPV	• ORDINARY ROAD	$8.6 m
	• THIS ROAD	+50% $13.5 m
NPV	• SAVING	$27 m

EFFICIENCY BENEFIT COST

Table #27: Summary of Net Present Value of Quantified Benefits & Costs (Sealing Only)

Benefits – Travel Time & Vehicle Operating Costs		
Light Vehicles		
Tourism	$46.1 m	
Residents	$19.6 m	
Business	$17.7 m	
Heavy Vehicles		
Trucks	$10.2 m	
Coaches	$2.3 m	
Safety	**$27.2 m**	
Total	**$123.1 m**	
Cost		
Capital cost	$77.0 m	
Less NPV maintenance cost reduction	-$7.0 m	
Total	**$70.0 m**	
Benefit Cost Ratio	**1.76**	

WIDER BENEFITS

ECONOMIC WELFARE

WUJAL WUJAL

REOPEN	BLOOMFIELD LODGE
10 JOBS	NPV $15m

ECONOMIC IMPACT

ADDITIONAL TOURISM EXPENDITURE

COOKTOWN AREA

	Est $25m pa	NPV $630m
Est Annual Increase GRP including "Flow-on" effects		$16m
Est Annual Increase Employment		
Direct		210
Total (incl "Flow-on")		250

SOCIAL BENEFITS

EASTERN KUKU YULANJI CONNECTION

ENVIRONMENTAL BENEFITS

RUNOFF 60,000 CUBIC METRES

UNBRIDGED CROSSINGS

DUST ON FOLIAGE

OTHER COMMUNITIES

- INTERIOR ROAD: EXTRA TOURISTS CIRCUITING & IMPACT PDR SEALING MAKES UP FOR ANY LOSS

- LIMITED SURVEY DAINTREE CAPE TRIBULATION

- MAIN CONCERN: DAINTREE FERRY HOLD UPS WORSE

- LOSS OF "END OF LINE" MYSTIQUE

- LOSS OF 4WD OPPORTUNITY

FERRY

- DELAYS: NORTH BOUND → 10 AM – 12 NOON
  SOUTH BOUND → 3 PM – 5 PM
- ESTIMATED CURRENTLY 11% OF TRAFFIC ON FERRY: RISE TO 27%
- ADDITIONAL REVENUE ESTIMATE = $600,000 pa

4WD

CREB TRACK STILL AVAILABLE

POTENTIAL BENEFITS

VISITOR NUMBERS CAPE TRIBULATION AREA

ABOUT 25% MORE

SOME SALES OPPORTUNITY

ACCOMMODATION NOT "END OF LINE"

HAVE TOUR BASE STATUS WITH DAY TRIP OPPORTUNITIES NORTH TO COOKTOWN AS WELL AS SOUTH

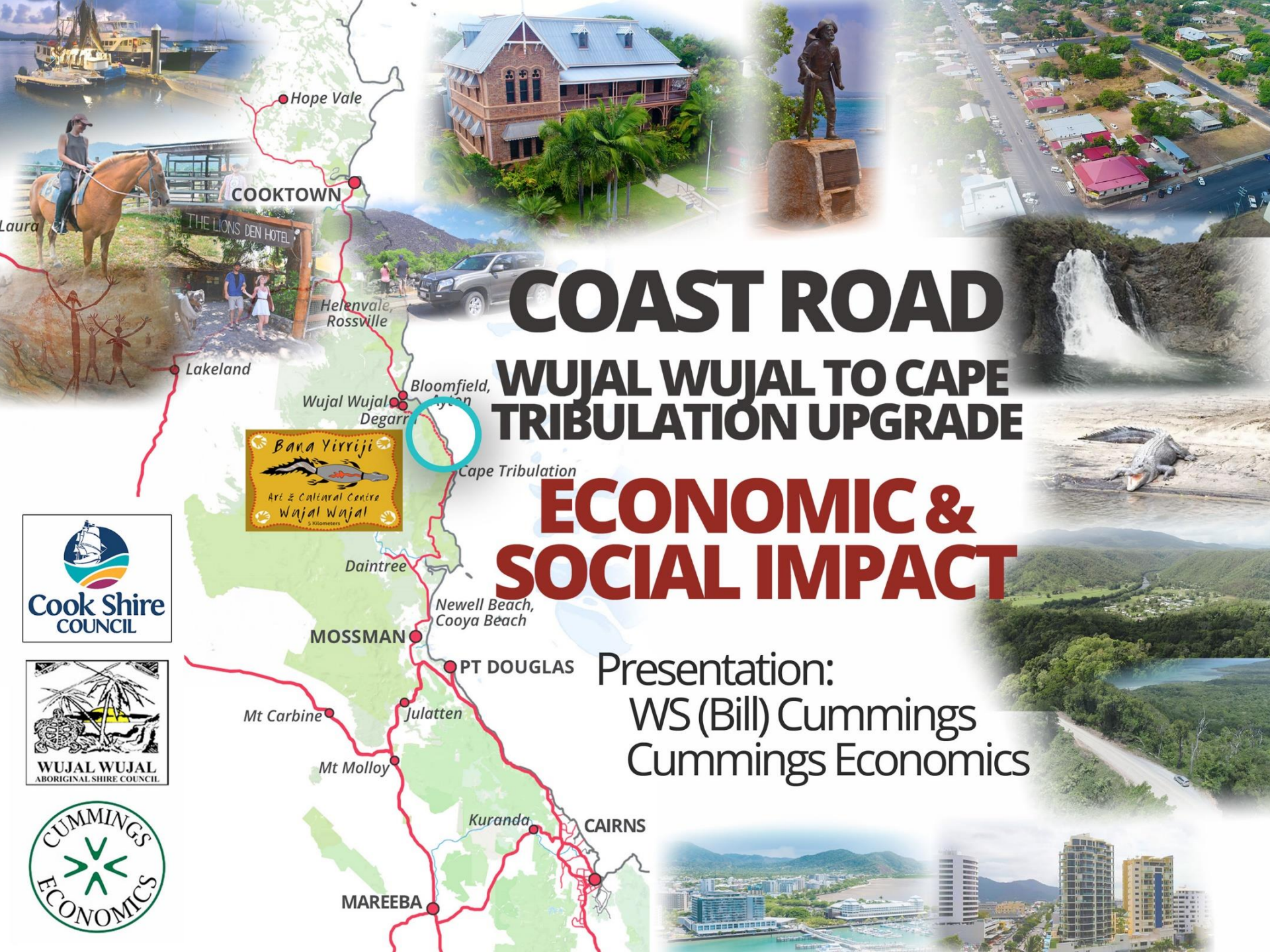
DOUGLAS SHIRE

MAINTENANCE SAVING	$400,000 pa
(IF ROAD TO OTHER ENTITY)	($700,000)
FERRY REVENUES	EST $600,000

BENEFIT TO MOSSMAN AS A RETAIL CENTRE

REGIONAL IMPACT

HELP OPEN UP / ADVANCE
WIDER COOKTOWN REGION
AS A TOURIST AREA
WITH SPECIAL PRODUCT OFFERINGS



COAST ROAD

WUJAL WUJAL TO CAPE TRIBULATION UPGRADE

ECONOMIC & SOCIAL IMPACT

Cook Shire COUNCIL

WUJAL WUJAL ABORIGINAL SHIRE COUNCIL

CUMMINGS ECONOMICS

Presentation:

WS (Bill) Cummings

Cummings Economics