

## Amy Viggers

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**From:** official information  
**Sent:** Friday, 19 July 2019 08:44  
**To:** [REDACTED]  
**Cc:** official information  
**Subject:** Re LGOIMA 19167 - 5G, Smart Cities and LED Lighting

Kia ora

Further to your information request of 21 June 2019 in respect of 5G, Smart Cities and LED Lighting, I am now able to provide Hamilton City Council's response.

### You requested:

*1. Do you have a 5G strategy?*

*1.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.*

*1.2 If yes, has the public had the opportunity to read and understand Hamilton City Council's 5G strategy? Where was this information published?*

*1.3 I also request a supplementary document that includes the highest level of detail on all 5G technology that's planned to be used and currently in use in public spaces within Hamilton City.*

*(a) Companies and entities involved and the names of the company/entity officers.*

*(b) Specification sheets of 5G technology.*

*(c) What technology e.g. units and arrays are not currently 5G, but can be 5G enabled e.g. with current software, future software, hardware upgrades or retrofitting?*

*(d) What UK, EU and International safety standards is the Hamilton City Council complying with for the 5G strategy and existing 5G technology.*

*(e) I request proof e.g. a certificate from Hamilton City Council that confirms that UK, EU and International safety standards for workers and the public have been met.*

*1.4 If no, I request to know when you will be chairing a 5G strategy?*

*2. I request the name/s of the Officer/s in charge of the 5G strategy and roll out for 5G and Smart Cities; and who their subject area expert or consultancy is, their CV and qualifications on 5G and Smart Cities.*

*3. Are you in talks with any experts, companies or entities about autonomous vehicles (AV) for public transport and/or private use on Public Highways?*

*3.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.*

*3.2 I also request a supplementary document that includes all levels of detail on:*

*(a) Companies and entities involved and the names of the company/entity officers?*

*(b) Specification sheets of all technology.*

*(c) What type of communication system will Council be utilising to control the vehicles?*

*(d) What NZ and International safety standards does your AV strategy and rollout comply with?*

*(e) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.*

*4. Do you have a strategy for smart roads and smart signage on Public Highways and Public spaces?*

*4.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.*

*4.2 I also request a supplementary document that includes all levels of detail on:*

*(a) Companies and entities involved and the names of the company/entity officers?*

*(b) Specification sheets of all technology.*

*(c) What technology e.g. units and arrays will not be 5G, but can be 5G enabled e.g. with current software, future software, hardware upgrades or retrofitting etc (you must be specific on anything here)?*

*(d) What NZ and International safety standards does your 5G strategy and rollout comply with?*

*(e) I request proof e.g. a certificate from Council that confirms that NZ, and International safety standards for workers and the public have been met.*

*5. Are you planning to rollout or have rolled out LED street lighting?*

*5.1 If yes, please answer these questions:*

*(a) What is the CMS and specification of the software and hardware of the LED street light system?*

*(b) What type of waveform is the LED? e.g. Square wave?*

*(c) Can you control the Pulse Width Modulation (PWM) of the streetlight system using the CMS?*

*(d) Can you control the PWM of each streetlight that's connected to the system?*

*(e) What restrictions do you have in place for the control of the PWM?*

*(f) What is the NZ and International safety limit (low and high) for the amount of 'flicker' (Hz) the Human Body and eyes can be exposed to and for how long?*

*(g) I request to see the training manual and safety operation manual for the CMS and the LED streetlight system.*

*(h) Who is the company who is or has installed the CMS LED streetlight system?*

*(i) What company maintains and repairs the CMS and LED streetlight system?*

*(j) What entity and Officer is responsible for the safety standards for the CMS and LED streetlight system?*

*(k) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.*

*(l) What is the amount of Blue Light leakage that's safe for the public and workers during the LED streetlights operation?*

*(m) What level of LED streetlight exposure is safe for the public at daytime and night time?*

*(n) Is there a legal requirement for diffusers to be fitted to LED streetlights?*

*(o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?*

*5.2 If no, then I request a declaration from Council that you will not be installing LED streetlights in the future. If you cannot provide a declaration, I would like the following answered in the future tense:*

*(a) What is the CMS and specification of the software and hardware of the LED street light system?*

*(b) What type of waveform is the LED? e.g. Square wave?*

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*(n) Is there a legal requirement for diffusers to be fitted to LED streetlights?*

*(o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?*

*6. Where do you have 3G and 4G systems in public spaces and public roads?*

**Our response:**

**1. Do you have a 5G strategy?**

**No. There are no commercial 5G services available yet in Hamilton.**

**1.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.**

**N/A**

**1.2 If yes, has the public had the opportunity to read and understand Hamilton City Council's 5G strategy? Where was this information published?**

N/A

**1.3 I also request a supplementary document that includes the highest level of detail on all 5G technology that's planned to be used and currently in use in public spaces within Hamilton City.**

There are no commercial 5G services available yet in Hamilton.

*(a) Companies and entities involved and the names of the company/entity officers.*

N/A

*(b) Specification sheets of 5G technology.*

N/A

*(c) What technology e.g. units and arrays are not currently 5G, but can be 5G enabled e.g. with current software, future software, hardware upgrades or retrofitting?*

Unknown. Potentially all 4G equipment could be retrofitted, but the cost may not be commercially viable. Hamilton City Council has no plans to review existing technology, as we have no need to use 5G at this stage.

*(d) What UK, EU and International safety standards is the Hamilton City Council complying with for the 5G strategy and existing 5G technology.*

N/A

*(e) I request proof e.g. a certificate from Hamilton City Council that confirms that UK, EU and International safety standards for workers and the public have been met.*

N/A

**1.4 If no, I request to know when you will be chairing a 5G strategy?**

Hamilton City Council has no plans to create a 5G strategy. Most communications are managed over existing fixed line (e.g. fibre) circuits. Furthermore, the Council do not have a need for 5G, and until there is a commercial offering and a business requirement for a 5G strategy are unlikely to create one.

**2. I request the name/s of the Officer/s in charge of the 5G strategy and roll out for 5G and Smart Cities; and who their subject area expert or consultancy is, their CV and qualifications on 5G and Smart Cities.**

N/A for the 5G strategy.

Hamilton City Council does not have a 'Smart City' strategy. We are rolling out a programme called Smart Hamilton which is an innovation programme. Our Smart Hamilton Programme Manager is Chelsey Stewart who is leading this workstream.

Information relating to her CV and Smart Cities qualifications has not been released. This information has not been provided/withheld under Section 7(2)(a) of the Local Government Official Information and Meetings Act 1987 – in that release would infringe the privacy of natural persons.

**3. Are you in talks with any experts, companies or entities about autonomous vehicles (AV) for public transport and/or private use on Public Highways?**

No.

**3.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.**

N/A

**3.2 I also request a supplementary document that includes all levels of detail on:**

*(a) Companies and entities involved and the names of the company/entity officers?*

*(b) Specification sheets of all technology.*

*(c) What type of communication system will Council be utilising to control the vehicles?*

*(d) What NZ and International safety standards does your AV strategy and rollout comply with?*

(e) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.

N/A

#### 4. Do you have a strategy for smart roads and smart signage on Public Highways and Public spaces?

No.

4.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.

N/A

4.2 I also request a supplementary document that includes all levels of detail on:

(a) Companies and entities involved and the names of the company/entity officers?

N/A

(b) Specification sheets of all technology.

N/A

(c) What technology e.g. units and arrays will not be 5G, but can be 5G enabled e.g. with current software, future software, hardware upgrades or retrofitting etc (you must be specific on anything here)?

N/A

(d) What NZ and International safety standards does your 5G strategy and rollout comply with?

N/A

(e) I request proof e.g. a certificate from Council that confirms that NZ, and International safety standards for workers and the public have been met.

N/A

#### 5. Are you planning to rollout or have rolled out LED street lighting?

Yes, during 2018/19 we rolled out city wide LED replacement, excluding the state highway network within the city (this network is managed by NZTA).

The better quality of light and softer warm colour means less light-spill into homes, increases the safety and visibility of road users, and is also considered better for nocturnal animals like the pekapeka-tou-roa (New Zealand long-tailed bat).

This work did not improve street lighting just for Hamilton; it improved it for New Zealand. After considerable research, the City rejected the 'standard' blue-tinged 4000k LEDs specified by NZTA and already rolled out elsewhere in New Zealand.

Instead, Hamilton specified warmer 3000k lights; a decision supported by groups like the American Medical Association. Hamilton City Council's work caused NZTA to eventually update its lighting specifications to clear the way for other centres to follow in Hamilton's footsteps.

This project has driven fundamental change in the way New Zealanders see and experience light and the work has been universally praised by environmentalists, health professionals, lighting experts and astronomers.

##### 5.1 If yes, please answer these questions:

(a) What is the CMS and specification of the software and hardware of the LED street light system?

Hamilton does not have a CMS system. The lights are Philips RoadGrace3000k lanterns. Information about these lights can be found via this link: <http://www.lighting.philips.co.nz/prof/outdoor-luminaires/road-and-urban-lighting/road-and-urban-luminaires/roadgrace>

(b) What type of waveform is the LED? e.g. Square wave?

Hamilton City Council does not hold this information.

(c) Can you control the Pulse Width Modulation (PWM) of the streetlight system using the CMS?

N/A

*(d) Can you control the PWM of each streetlight that's connected to the system?*

N/A

*(e) What restrictions do you have in place for the control of the PWM?*

N/A

*(f) What is the NZ and International safety limit (low and high) for the amount of 'flicker' (Hz) the Human Body and eyes can be exposed to and for how long?*

Hamilton City Council does not hold this information.

*(g) I request to see the training manual and safety operation manual for the CMS and the LED streetlight system.*

Hamilton City Council do not have a CMS system for the LED lights. The manufacturer's instruction manual for installing the LED lights can be found via this link: { HYPERLINK "<http://www.lighting.philips.co.nz/prof/outdoor-luminaires/road-and-urban-lighting/road-and-urban-luminaires/roadgrace>" }

Fully qualified electricians or linesmen carried out this work.

*(h) Who is the company who is or has installed the CMS LED streetlight system?*

N/A, Hamilton City Council does not have a CMS system.

*(i) What company maintains and repairs the CMS and LED streetlight system?*

Hamilton City Council does not have a CMS system. The Infrastructure Alliance (Downers /Hamilton City Council collaborative working arrangement) maintains the LED lights in Hamilton city.

*(j) What entity and Officer is responsible for the safety standards for the CMS and LED streetlight system?*

Hamilton City Council does not have a CMS system. However, is responsible for the LED street lighting system as Road Controlling Authority of the local road network.

*(k) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.*

Below is the link to the Regional Infrastructure Technical Specification of which Hamilton City Council is a participating council which sets out how to design and construct, among other things, street lighting on roads within the participating council areas.

{ HYPERLINK "<https://waikatolass.co.nz/wp-content/uploads/2019/01/Regional-Infrastructure-Technical-Specification-V1.0.pdf>" }

*(l) What is the amount of Blue Light leakage that's safe for the public and workers during the LED streetlights operation?*

Hamilton City Council does not hold this information.

*(m) What level of LED streetlight exposure is safe for the public at daytime and night time?*

Hamilton City Council does not hold this information.

*(n) Is there a legal requirement for diffusers to be fitted to LED streetlights?*

Hamilton City Council does not hold this information.

*(o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?*

Hamilton City Council does not hold this information, however have only installed 3000k colour temperature luminaries (Warm white).

**5.2 If no, then I request a declaration from Council that you will not be installing LED streetlights in the future. If you cannot provide a declaration, I would like the following answered in the future tense:**

N/A

*(a) What is the CMS and specification of the software and hardware of the LED street light system?*

*(b) What type of waveform is the LED? e.g. Square wave?*

- (c) Can you control the Pulse Width Modulation (PWM) of the streetlight system using the CMS?
- (d) Can you control the PWM of each streetlight that's connected to the system?
- (e) What restrictions do you have in place for the control of the PWM?
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- (g) I request to see the training manual and safety operation manual for the CMS and the LED streetlight system.
- (h) Who is the company who is or has installed the CMS LED streetlight system?
- (i) What company maintains and repairs the CMS and LED streetlight system?
- (j) What entity and Officer is responsible for the safety standards for the CMS and LED streetlight system?
- (k) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.
- (l) What is the amount of Blue Light leakage that's safe for the public and workers during the LED streetlights operation?
- (m) What level of LED streetlight exposure is safe for the public at daytime and night time?
- (n) Is there a legal requirement for diffusers to be fitted to LED streetlights?
- (o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?

**6. Where do you have 3G and 4G systems in public spaces and public roads?**

We have 3G and 4G systems to service some traffic signal controllers, school zone signage and travel time sensors across our city-wide network.

Kind regards,

**Amy Viggers**

On behalf of the Privacy Officer

DDI: 07 8386727 | Email: { HYPERLINK "mailto:amy.viggers@hcc.govt.nz" }

{ HYPERLINK "http://www.hamilton.govt.nz/" } \o "Hamilton City Council" }

Hamilton City Council | Private Bag 3010 | Hamilton 3240 | { HYPERLINK "http://www.hamilton.govt.nz/" }

{ HYPERLINK "http://www.facebook.com/HamiltonCityCouncil" } { HYPERLINK "http://www.twitter.com/CouncilHamilton" }

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**From:** official information

**Sent:** Monday, 24 June 2019 8:14 AM

**To:** { [REDACTED] }

**Cc:** official information <{ HYPERLINK "mailto:officialinformation@hcc.govt.nz" }>

**Subject:** Re LGOIMA 19167 - 5G, Smart Cities and LED Lighting

Kia ora,

I write to acknowledge your information request of 21 June 2019 in respect of 5G, Smart Cities and LED Lighting.

Please be advised that your request has been passed on to the relevant team within Council and you will be informed of the outcome.

The Local Government Official Information and Meetings Act 1987 requires that we advise you of our decision on whether the Council will provide the requested information or not "as soon as reasonably practicable", no later than 20 working days after the day we received your request. We will respond to you no later than 19 July 2019.

Kind regards,

**Amy Viggers**

*On behalf of the Privacy Officer*

DDI: 07 8386727 | Email: { HYPERLINK "mailto:amy.viggers@hcc.govt.nz" }

{ HYPERLINK "http://www.hamilton.govt.nz/" \o "Hamilton City Council" }

**Hamilton City Council | Private Bag 3010 | Hamilton 3240 | { HYPERLINK "http://www.hamilton.govt.nz/" }**

{ HYPERLINK "http://www.facebook.com/HamiltonCityCouncil" } { HYPERLINK "http://www.twitter.com/CouncilHamilton" }

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-----Original Message-----

**From:** [REDACTED]

**Sent:** Friday, 21 June 2019 11:46 AM

**To:** "{ HYPERLINK "mailto:Info@hcc.govt.nz" }" <{ HYPERLINK "mailto:Info@hcc.govt.nz" }>

**Subject:** Request for Information under the Local Government Official Information Act

Hi Hamilton City Council

This is a LGOIA Request .

1. Do you have a 5G strategy?

1.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.

1.2 If yes, has the public had the opportunity to read and understand Hamilton City Councils 5G strategy? Where was this information published?

1.3 I also request a supplementary document that includes the highest level of detail on all 5G technology that's planned to be used and currently in use in public spaces within Hamilton City.

(a) Companies and entities involved and the names of the company/entity officers.

(b) Specification sheets of 5G technology.

(c) What technology e.g. units and arrays are not currently 5G, but can be 5G enabled e.g. with current software, future software, hardware upgrades or retrofitting?

(d) What UK, EU and International safety standards is the Hamilton City Council complying with for the 5G strategy and existing 5G technology.

(e) I request proof e.g. a certificate from Hamilton City Council that confirms that UK, EU and International safety standards for workers and the public have been met.

1.4 If no, I request to know when you will be chairing a 5G strategy?

2. I request the name/s of the Officer/s in charge of the 5G strategy and roll out for 5G and Smart Cities; and who their subject area expert or consultancy is, their CV and qualifications on 5G and Smart Cities.

3. Are you in talks with any experts, companies or entities about autonomous vehicles (AV) for public transport and/or private use on Public Highways?

3.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.

3.2 I also request a supplementary document that includes all levels of detail on:

- (a) Companies and entities involved and the names of the company/entity officers?
- (b) Specification sheets of all technology.
- (c) What type of communication system will Council be utilising to control the vehicles?
- (d) What NZ and International safety standards does your AV strategy and rollout comply with?
- (e) I request proof e.g. a certificate from Council that confirms that NZ and International safety standards for workers and the public have been met.

4. Do you have a strategy for smart roads and smart signage on Public Highways and Public spaces?

4.1 If yes, I request to see the complete strategy, its ambitions and its objectives in PPTX, Word, PDF or picture format.

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5. Are you planning to rollout or have rolled out LED street lighting?

5.1 If yes, please answer these questions:

- (a) What is the CMS and specification of the software and hardware of the LED street light system?
- (b) What type of waveform is the LED? e.g. Square wave?
- (c) Can you control the Pulse Width Modulation (PWM) of the streetlight system using the CMS?
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- (i) What company maintains and repairs the CMS and LED streetlight system?

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- (o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?

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- (o) How have you have addressed the amount of Oxidative Stress on Human and Animal cells that's produced from LED?

6. Where do you have 3G and 4G systems in public spaces and public roads?

I would appreciate a return email to acknowledge receipt of this request.

Kind regards,



{ INCLUDEPICTURE \d "https://u1865923.ct.sendgrid.net/wf/open?upn=PMG-2BQlxBJNHc3Ct-2FeVIZSeXcb61vx6EuQceHqoAI2vu4O07rE7vsE5c-2Bv5NcC-2Bq8yWtUbxv7183oGxW2pkSeaG8nWqAJpS-2B8eAcLqGyAxDYLP5SzaImuF65bsfBcSsaUDqgG4TvXREDg9JM2PXq-2BgLgc05cwjrYC9HFYJzcdyv26DRUKA2s3iebJIfwMCGamy2Jlt" \\* MERGEFORMATINET }